



ENVISION

FY15 PY4 Semi Annual Report

October 1, 2014 – March 30, 2015

Submitted to USAID May 15, 2015

envision
a world free of NTDs

ENVISION Semi Annual Report FY15 PY4

October 1, 2014 – March 30, 2015

Cooperative Agreement No. AID-OAA-A-11-00048

Prepared for
Rob Henry, AOR
Office of Health, Infectious Diseases and Nutrition
U.S. Agency for International Development
1300 Pennsylvania Avenue, NW
Washington DC, 20532

Prepared by
RTI International
3040 Cornwallis Road
Post Office Box 12194
Research Triangle Park, NC 27709-2194

ENVISION PROJECT OVERVIEW

ENVISION is a five-year project funded by the U.S. Agency for International Development (USAID) aimed at providing assistance to national neglected tropical disease (NTD) control programs for the control and elimination of seven targeted NTDs: lymphatic filariasis, onchocerciasis, schistosomiasis, three soil-transmitted helminths (roundworm, hookworm, whipworm) and trachoma. ENVISION will contribute to the global goal of reducing the burden of these targeted NTDs so that they are no longer a public health problem.

ENVISION is implemented by RTI International in partnership with CBM International, The Carter Center, Fred Hollows Foundation, Helen Keller International, IMA World Health, Light for the World, Sightsavers, and World Vision. The period of performance for ENVISION is September 30, 2011 through September 29, 2016.

USAID
FROM THE AMERICAN PEOPLE

RTI INTERNATIONAL

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

AFRO	Africa Regional Office
ALB	Albendazole
AOR	Agreement Officer's Representative
APOC	African Program for Onchocerciasis Control
ASTMH	American Society for Tropical Medicine and Hygiene
CBM	CBM International
CCA	Cathodic Circulating Antigen
CDC	United States Centers for Disease Control and Prevention
CDD	Community drug distributor
CDTI	Community-directed treatment with ivermectin
CMFL	Community microfilarial load
CNTD	Centre for Neglected Tropical Diseases, Liverpool School of Tropical Medicine
COR-NTD	Coalition for Operational Research in NTDs
DC	District of Columbia
DEC	Diethylcarbamazine
DfID	Department for International Development
DOLF	Death to Onchocerciasis and Lymphatic Filariasis
DRC	Democratic Republic of Congo
DSA	Disease specific assessment
DQA	Data quality assessment
ELISA	Enzyme-linked immunosorbent assay
EMRO	Eastern Mediterranean Regional Office
EPI	Expanded Program for Immunization
EPIRF	Epidemiological Data Reporting Form
EU	Evaluation unit
FHF	Fred Hollows Foundation
FMOH	Federal Ministry of Health
FOG	Fixed obligation grant
FTS	Filariasis Test Strip
FY	Fiscal year
GAELF	Global Alliance to Eliminate Lymphatic Filariasis
GDA	Global Development Alliance
GET2020	Global Elimination of Blinding Trachoma by 2020
GIS	Geographic Information Systems
GPELF	Global Programme to Eliminate Lymphatic Filariasis
GPS	Global positional system
GSA	Global Schistosomiasis Alliance
GSK	GlaxoSmithKline
GTMP	Global Trachoma Mapping Project
HKI	Helen Keller International
HQ	Headquarters
ICT	Immunochromatographic test
ICTC	International Coalition for Trachoma Control
IEC	Information, education, communication
IMA	IMA World Health

IR	Intermediate result
IR	Implementation research
ITI	International Trachoma Initiative
IU	Implementation unit
IVM	Ivermectin
JAF	Joint Action Forum
J&J	Johnson & Johnson
KAP	Knowledge, attitude, practices
KCCO	Kilimanjaro Center for Community Ophthalmology
KM	Knowledge Management
LF	Lymphatic filariasis
LFW	Light for the World
LQAS	Lot Quality Assurance Sampling
LSHTM	London School of Hygiene & Tropical Medicine
M&E	Monitoring and evaluation
MBD	Mebendazole
MDA	Mass drug administration
MDP	Mectizan Donation Program
Mf	Microfilaremia
MMDP	Morbidity Management and Disability Prevention
MOH	Ministry of Health
NGDO	Non-governmental development organization
NGO	Non-governmental organization
NNN	NTD NGDO Network
NTD	Neglected tropical disease
NTD-SC	NTD Support Center
NTD-STAG	Strategic and Technical Advisory Group on Neglected Tropical Diseases
OR	Operational research
OV	Onchocerciasis
PAHO	Pan American Health Organization
PCR	Polymerase chain reaction
PC	Preventive chemotherapy
PDCI	Partnership for Disease Control Initiative
PSSC II	USAID's Programme Santé Santé Communautaire II
PZQ	Praziquantel
REA	Rapid epidemiological assessment
REMO	Rapid epidemiological mapping of onchocerciasis
RPRG	Regional Program Review Group
RTP	Research Triangle Park
SAC	School-aged children
SAE	Serious adverse events
SAFE	Surgery, Antibiotics, Facial cleanliness, Environmental improvements
SCH	Schistosomiasis
SCORE	Schistosomiasis Consortium for Operational Research and Evaluation
SEARO	Southeast Asia Regional Office
SMS	Short message service
SOP	Standard operating procedures
STH	Soil-transmitted helminths

TA	Technical assistance
TAF	Technical Assistance Facility
TAS	Transmission assessment survey
TAP	Trachoma Action Plan
TCC	The Carter Center
TEC	Trachoma Expert Committee
TEO	Tetracycline eye ointment
TF	Trachomatous inflammation-follicular
TFGH	Task Force for Global Health
TIPAC	Tool for Integrated Planning and Costing
TIS	Trachoma impact survey
TOT	Training of Trainers
TRA	Trachoma
TT	Trachomatous trichiasis
UOEEAC	Uganda Onchocerciasis Elimination Expert Advisory Committee
USAID	United States Agency for International Development
USD	United States Dollar
WASH	Water, sanitation, and hygiene
WG-CS	Working Group for Capacity Strengthening
WHO	World Health Organization
WPRO	Western Pacific Regional Office
WV	World Vision
ZTH	Zithromax

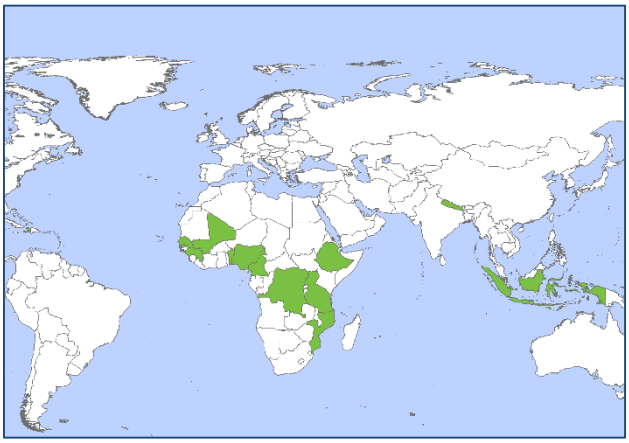
INTRODUCTION

The **U.S. Agency for International Development (USAID) ENVISION project (2011-2016)** mandate is to support the vision of the World Health Organization (WHO) and its member states by targeting the control and elimination of seven neglected tropical diseases (NTDs): lymphatic filariasis (LF), onchocerciasis, schistosomiasis (SCH), trachoma, and three soil-transmitted helminths (STH; roundworm, whipworm, hookworm). ENVISION's goal is to strengthen NTD programming at global and country levels and support Ministries of Health (MOH) to achieve their NTD control and elimination goals.

At global level, ENVISION –in close coordination and collaboration with WHO, USAID and other stakeholders– contributes to several technical areas in support of global NTD control and elimination goals, including:

- Drug and diagnostics procurement, where global donation programs are unavailable,
- Capacity strengthening,
- Management and implementation of ENVISION's Technical Assistance Facility (TAF),
- Disease mapping,
- NTD policy and technical guideline development, and
- NTD monitoring and evaluation (M&E).

Figure 1. Countries supported by ENVISION in FY14



At country level, ENVISION provides support to national NTD programs in 14 countries in Africa, Asia and Latin America (Figure 1) by providing strategic technical, operational and financial assistance for a comprehensive package of NTD interventions, including:

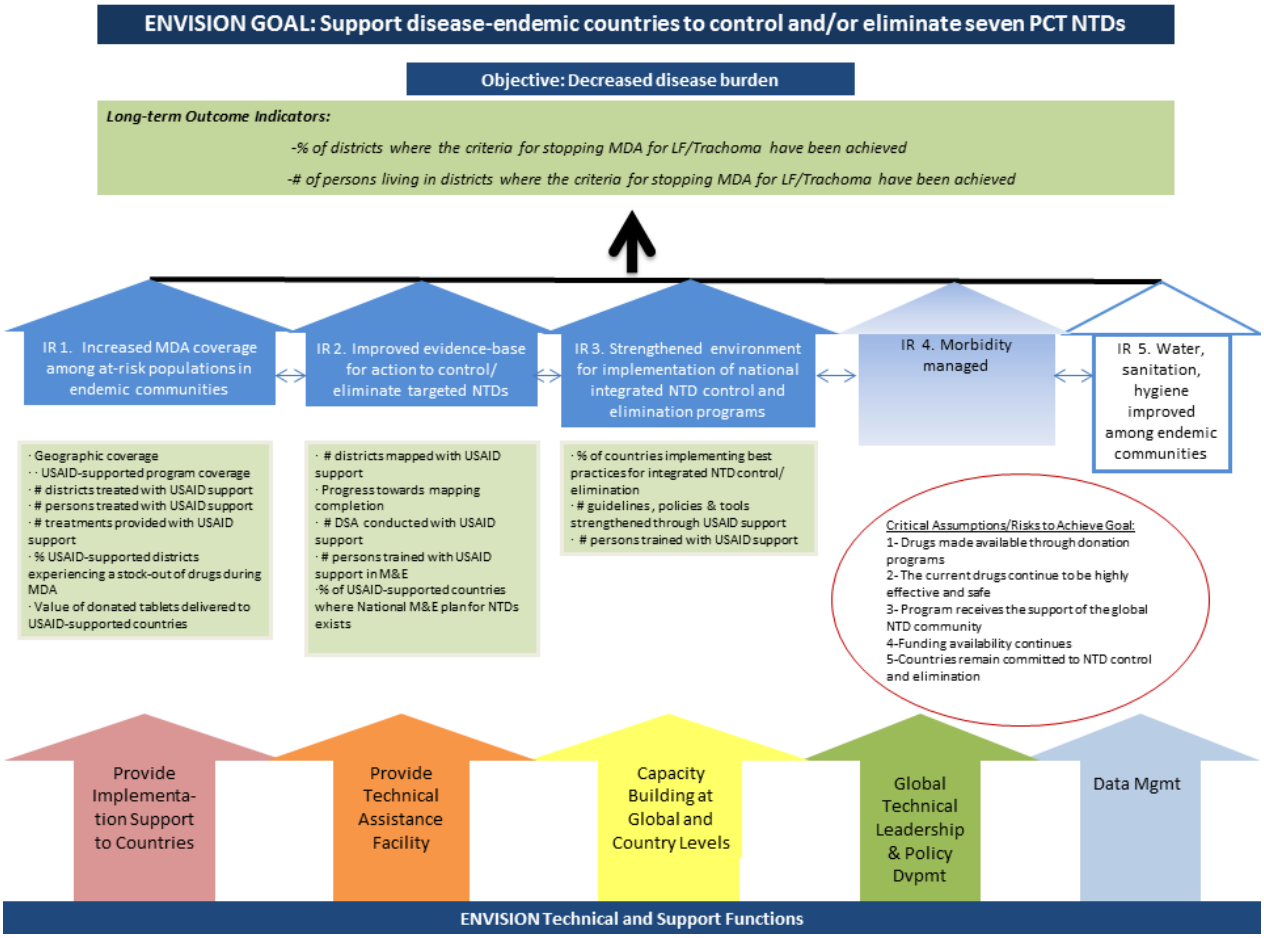
- Strategic annual and multi-year program planning
- Advocacy
- Social mobilization and health education
- Capacity strengthening
- Baseline disease mapping
- Preventive chemotherapy (PC) or mass drug administration (MDA) implementation
- Drug and commodity supply management and procurement
- Program supervision
- M&E, including disease-specific assessments (DSA) and surveillance

Countries include: Benin, Cameroon, Democratic Republic of Congo, Ethiopia, Guinea, Haiti, Indonesia, Mali, Mozambique, Nepal, Nigeria, Senegal, Tanzania, and Uganda.

ENVISION Project Framework

Based on the WHO NTD roll-out package[1] and the accomplishments from the earlier USAID-funded NTD Control Program (2006-2012), RTI and USAID designed the ENVISION project with the goal of supporting disease-endemic countries to control or eliminate seven NTDs. Through a package of technical and support functions, ENVISION aims to empower governments of endemic countries to lead national NTD control programs and scale up the delivery of PC for the USAID-targeted NTDs.

Figure 2: ENVISION results framework



The ENVISION Results Framework graphic (Figure 2) illustrates the results framework through which project activities are designed, implemented, monitored, and evaluated. ENVISION technical and support functions include: 1) implementation support to countries; 2) technical assistance (TA) for national NTD programs; 3) capacity building at global and country levels; 4) global technical leadership

[1] Hanson C, Weaver A, Zoerhoff KL, Kabore A, Linehan M, Doherty A, Engels D, Savioli L, Ottesen EA (2012) Integrated Implementation of Programs Targeting Neglected Tropical Diseases through Preventive Chemotherapy: Identifying Best Practices to Roll Out Programs at National Scale. *Am J Trop Med Hyg* 86: 508-513.

and policy development; and 5) data management. These functions are designed to support activities aiming at the agreed ENVISION Intermediate Result (IR) domains:

IR 1) increased MDA coverage among at-risk populations in endemic communities;
IR 2) improved evidence base for determining and assessing action to control/eliminate targeted NTDs;
IR 3) strengthened strategic approach and guidelines for implementing national integrated NTD control and elimination programs

In order to achieve ENVISION's goal of strengthening NTD control at global and country levels, ENVISION engages with local, regional, and international stakeholders to provide technical, operational and financial assistance and build capacity, ensuring that standard tools (such as the WHO Integrated NTD Database), techniques and state-of-the-art approaches (such as data quality assessments) are used effectively. By influencing global policies and building local capacities and systems, ENVISION aims to foster efficient and sustained integrated NTD control beyond the life of the project.

Several critical assumptions are considered during ENVISION project work planning and implementation, including the continued availability of safe and effective donated drugs, the support of the global NTD community, the timing and availability of project funding, and the commitment and leadership of national NTD programs of endemic country governments. These assumptions speak to the importance of the project's reputation and leadership throughout the NTD community and are continuously monitored by project management. The project also faces the risk of not reaching its targets due to political instability (e.g., as experienced in Mali during 2013/2014) and of disease outbreaks that affect national health care systems and communities' relationships with those systems (e.g., Ebola outbreak in West Africa in 2014 affecting ENVISION programming in several countries, specifically Guinea, Mali, and Nigeria).

Completing the Epidemiological Map

Completing the NTD epidemiological map is a critical milestone for USAID-supported countries in working towards global NTD control and elimination goals. Therefore, targeted baseline prevalence mapping is a priority activity for ENVISION country teams when working with national NTD programs. ENVISION's strategy for helping countries achieve their mapping targets includes providing expertise and support to:

1. Determine the geographic areas to be mapped;
2. Identify best mapping protocol and methodology to use;
3. Train NTD program staff in disease mapping and provide necessary tools and diagnostics; and
4. Provide technical, operational and financial support for mapping suspected areas, use of mobile technologies for data collection, data analysis and interpretation, and dissemination of results.

Partner Coordination in Mapping. Among the major implementing and coordinating partners supporting NTD control and elimination, ENVISION continues to play a lead coordinating role to ensure that gaps in mapping are being adequately funded, whether through USAID funding, or other funding, or

a combination of several sources. The coordinating role of ENVISION among implementing partner organizations is quickly expanding with the push and momentum to complete this crucial early stage of NTD programs to continue on the continuum to elimination.

Mass Drug Administration

MDA is the administration of drugs to entire populations, in order to control, prevent or eliminate disease that exceeds WHO established thresholds. Seven NTDs, all targeted by the USAID NTD program and –hence– ENVISION, can be controlled and treated through MDA, using safe, single-dose medicines. This is made possible by the generous donation of several medicines from the pharmaceutical industry and their respective drug donation programs. Treatment of at-risk populations for multiple years can lead to control or elimination of these diseases and can relieve populations from daily suffering. ENVISION's strategy for helping countries achieve their MDA targets includes providing expertise and support to:

1. Mobilize resources necessary to reach national scale, including funding, medicines, and other supplies
2. Ensure MDAs target eligible at-risk populations
3. Reach MDA coverage targets, as defined by WHO for each of the seven NTDs
4. Monitor data quality, as well as promote effective data collection, storage, and use, and technical assistance for electronic data collection
5. Conduct periodic post-MDA coverage surveys and analysis of reported MDA coverage
6. Disseminate programmatic results and achievements

MDA Coverage. MDA coverage is a critical indicator for NTD programs and is necessary if countries are to reach global 2020 targets for control and elimination. The ENVISION project helps MOHs monitor multiple kinds of MDA coverage, including geographic, program and epidemiological coverage.

Disease Specific Assessments

DSA are an important milestone for NTD programs, helping NTD program managers to measure programmatic impact and make important determinations about the continuation or discontinuation of treatment and other complementary interventions. ENVISION's approach is to support DSAs according to WHO guidelines regarding epidemiology and MDA coverage, taking timing into account as indicated by the data and the approval of the WHO Regional Program Review Group (RPRG) or other relevant body.

ENVISION prioritizes DSAs where USAID has previously supported MDA, with preference given to both LF and trachoma assessments, when necessary due to funding limitations. In addition, ENVISION focuses efforts on those DSAs that are critical for decision-making. Consequently, ENVISION does not support LF mid-term DSAs, unless there is a strong technical argument in country that one ought to take place. For all DSAs conducted throughout the ENVISION portfolio, the project works with national programs to:

1) Ensure DSAs are well-coordinated and of high quality;
2) Increase coordination with the WHO RPRGs and drug donation programs;
3) Disseminate DSA results, identifying best practices, where possible;
4) Address DSA failures, investigating issues that may have contributed to these and addressing them as appropriate; and
5) Celebrate DSA successes, supporting national programs to move to the next program phase.

Coordination with the WHO RPRG: The WHO RPRGs serve as the primary and official body reviewing the progress made by national NTD programs towards the achievement of disease-specific goals. Recommendations from the RPRG are made to country delegations regarding resource mobilization, collaboration with partners, program strengthening, inter-country mutual support, operational research (OR), and compliance with WHO norms and guidelines.

National NTD programs rely heavily on guidance from WHO RPRGs to determine when districts are eligible for LF transmission assessment surveys (TAS) and in reaching stop treatment determinations. As national NTD programs move toward LF elimination, the WHO RPRGs must provide increasing review and recommendations to countries.

The WHO RPRG has within its remit the review of trachoma impact surveys (TIS). Until a more formal mechanism is defined, the RPRG informally works with the International Trachoma Initiative (ITI) Trachoma Expert Committee (TEC). ENVISION supports the RPRG and TEC decisions and helps countries with the decisions' interpretation.

Capacity Strengthening

Capacity strengthening for NTD control and elimination has become a clear priority for ENVISION countries and for WHO, as evidenced by country requests and the continued efforts of the Working Group on Capacity Strengthening (WG-CS) that was formed as part of the WHO Strategic and Technical Advisory Group for NTDs (NTD-STAG). USAID and ENVISION endorse capacity strengthening activities as an important element of assisting countries to reach NTD goals. ENVISION contributes to improved global NTD capacity – knowledge and skills – in a number of ways:

- Development of new courses and resources to address additional training gaps;
- Development of a network of facilitators and resource individuals to amplify scale-up of ENVISION's capacity strengthening efforts;
- Funding and technical support for participation in regional and country-level trainings;
- Ongoing opportunities for national NTD program staff for peer support and experience sharing; during regional trainings, meetings and workshops; and
- Support for cascaded training for MDA in ENVISION supported countries.

Evidence-based Decision Making

ENVISION countries are in varying stages of program maturity, ranging from completing mapping, scaling up MDA, and transitioning to post-MDA surveillance. As a national NTD program matures, the M&E requirements also evolve. ENVISION's enhanced M&E strategy prioritizes the following:

- Increasing the capacity of countries to implement nationally-owned M&E for NTD control and elimination in line with WHO guidelines;
- Implementing M&E activities within a programmatic context; and
- Facilitating the use of data from USAID-supported NTD projects.

Since the inception of ENVISION, the project's M&E team has been providing feedback to countries on coverage performance data submitted through the USAID NTD Disease and Program workbooks for the semi-annual reports. This feedback has included requests to provide information about the reasons for any low reported coverage as well as to identify strategies to improve coverage in upcoming MDAs. By providing this feedback, ENVISION facilitates a culture of data use, rather than simply reporting.

Support for USAID's M&E NTD M&E System. As USAID's flagship project for NTD control and elimination, ENVISION is responsible for the development and maintenance of USAID's NTD Program M&E system which consists of several data acquisition tools and a web-based M&E database. M&E data for multiple USAID-supported activities in NTD control and elimination are stored in USAID's online NTD Database, managed by ENVISION, and are used to support USAID reporting and guide national programs in making programmatic decisions.

PROJECT MANAGEMENT

Focus of activities during the first half of the year included coordination with USAID to finalize approval of the project level and country work plans for fiscal year (FY) 15. The project level FY15 work plan was approved by USAID on December 22, 2014 and the last country work plan was approved on February 24, 2015. RTI also made several changes to the management structure of the project, with Lisa Rotondo taking on the role of Project Director, Amy Doherty moving into the role of Deputy Director, and Eric Ottesen becoming Chief Technical Advisor to ENVISION.

The RTI Senior Management team was expanded to include four additional staff. A new Knowledge Management (KM) group was configured, which is composed primarily of staff working in support of M&E, communications and capacity strengthening. New staff were also brought on to support this new structure.

The Report Builder for USAID's NTD Database is operational, allowing for increasingly sophisticated data analysis and visualization across countries and disease program areas. New presentations of multi-year data and program performance are provided in this report and will be incorporated into FY16 work planning discussions with our partners and MOHs. The ENVISION team looks forward to working closely with USAID and country programs to continue to learn and benefit from this very rich and powerful database.

Table 1. ENVISION partner support by country

Country	ENVISION Partner
Benin	RTI International
Cameroon	Helen Keller International
Guinea	Helen Keller International
DRC	RTI International, IMA World Health, World Vision
Ethiopia	RTI International, Light for the World, Fred Hollows Foundation
Haiti	IMA World Health
Indonesia	RTI International
Mali	Helen Keller International
Mozambique	RTI International, Light for the World
Nepal	RTI International
Nigeria	RTI International, The Carter Center
Senegal	RTI International
Tanzania	IMA World Health
Uganda	RTI International, The Carter Center

ENVISION enjoyed strong representation at the Annual Meeting of the American Society of Tropical Medicines and Hygiene (ASTMH) held in New Orleans, November 2-6, 2014, where the project's results and achievement were presented. In addition, RTI worked closely with FHI360 and USAID to organize USAID's first Joint Meeting for Elimination Planning, which was held in Accra, Ghana April 21-24, 2015.

Partner Collaboration

ENVISION is led by RTI International (RTI) in partnership with CBM International (CBM), The Carter Center (TCC), Fred Hollows Foundation (FHF), Helen Keller International (HKI), IMA World Health (IMA), Sightsavers, Light for the World (LFW), and World Vision (WV). ENVISION partner support by country is provided in Table 1. Fred Hollows Foundation is the newest ENVISION partner, having joined the project team on October 14, 2014. Multiple ENVISION-supported countries are being implemented by a

consortium of ENVISION partners (Ethiopia, Democratic Republic of Congo [DRC], Uganda, Nigeria), with regular partner coordination crucial to ensure programmatic success.

Quarterly Partner Calls. RTI led conference calls which included representation from all ENVISION partners on October 27, 2014 and April 15, 2015. These calls provide a tool for sharing information and updates among ENVISION partners, discussing project challenges and successes, and reviewing global NTD trends.

USAID Partners Meeting, December 4-5, 2014. Several staff from the ENVISION project participated in a USAID-led meeting in Washington, D.C. for its NTD project implementers to discuss USAID's portfolio and share best practices.

Annual ENVISION Partners Meeting, January 8, 2015. Fifty-four people from USAID, RTI, CBM, TCC, FHF, HKI, IMA, LFW, Sightsavers and WV attended the day-long meeting held at the Metro Center Marriott in Washington DC. The meeting included updates from USAID and RTI in addition to presentations focused on M&E, capacity strengthening, coordination with operational research projects, mobile health platforms for NTD programs and procurement.

RTI ENVISION Management Meeting, March 20, 2015. RTI organized an ENVISION project meeting at RTI Corporate headquarters in Research Triangle Park (RTP), NC. This meeting included all RTI ENVISION staff from RTP and Washington D.C. as well as Country Resident Advisors from Ethiopia, Indonesia, Mozambique, Nigeria, and Senegal. Discussions focused on FY16 work planning, project operations and sharing of best practices and provided the unique opportunity to highlight the project's work to the broader RTI community, including RTI CEO Wayne Holden. **ENVISION Training Series.** ENVISION launched the ENVISION Training Series, which provides an opportunity for US-based staff from RTI International, FHI360, USAID, and partner organizations to gain experience with the NTD tools techniques used in the field. The trainings will provide in-depth detail on the subject matter and are comparable to field-based ENVISION-supported trainings. During this reporting period, planning began for the scheduling and rollout of multi-day trainings on TAS, the Tool for Integrated Planning and Costing (TIPAC), Serious Adverse Events (SAEs), Conducting DQAs, and the Integrated NTD Database. The first training in this series will be offered in April 2015.

END in Africa and ENVISION Joint Meeting for Elimination Planning, April 21-24, 2015. ENVISION Senior Management from RTI worked with USAID and FHI360 to finalize the agenda, determine the participant list and prepare materials for the meeting that was held in Accra, Ghana. MOH staff from 10 countries supported by USAID's NTD program presented at the meeting. Outcomes of this meeting will be included in the subsequent semi-annual report.

ENVISION Global Staffing

The ENVISION project currently includes 305 staff, which include 42 staff in the headquarters (HQ) offices (RTI and partners) and 263 field staff in 14 countries. ENVISION programmatic activities at country level are supported by a US-based country team composed of a technical, operations, and M&E

focal point (Table 2). An updated organization chart of the ENVISION home office reflecting the most recent changes in structure is provided in Appendix A.

Table 2. ENVISION project focal points by country

Country	Technical Focal Point	Operations Focal Point	M&E Focal Point
Benin	Jean Jacques Tougoue	Cheri Brown	Hannah Frawley
Cameroon	Jean Jacques Tougoue	Ruth Yohannes	Russell Owen
DRC	Jean Jacques Tougoue	Josh Sidwell	Russell Owen
Ethiopia	Scott McPherson	Julie Abella	Hannah Frawley
Guinea	Daniel Cohn	Ruth Yohannes	Russell Owen
Haiti	Katie Crowley	Cheri Brown	Kalpana Bhandari
Indonesia	Molly Brady	Ruth Yohannes	Kalpana Bhandari
Mali	Alexis Serna	Ruth Yohannes	Russell Owen
Mozambique	Philip Downs	Josh Sidwell	Hannah Frawley
Nepal	Katie Crowley	Margaret Davide-Smith	Kalpana Bhandari
Nigeria	Scott McPherson	Josh Sidwell	Kalpana Bhandari
Senegal	Daniel Cohn	Josh Sidwell	Russell Owen
Tanzania	Katie Crowley	Cheri Brown	Kalpana Bhandari
Uganda	Alexis Serna	Margaret Davide-Smith	Hannah Frawley

Knowledge Management

Under the new umbrella of KM, ENVISION is mapping out the processes required to further strengthen the knowledge of NTDs among ENVISION staff, MOHs, and partners. Using ENVISION's experiences and knowledge of programs, the goal is to help build state-of-the-art program implementation strategies in ENVISION countries, and beyond, and to facilitate contributions to global policies and guidelines.

Two key internal processes have already been set up to facilitate the development of a KM action plan, that emphasize a multi-disciplinary approach across the ENVISION team – recognizing that all team members both have and need knowledge.

1. Creation of the **KM Team** that brings together capacity strengthening, M&E, communications, and information and communications technology (ICT). This new space was created to facilitate close working between teams, to inspire innovation, and to facilitate dissemination for broader use of strategies, materials and tools developed under ENVISION. Examples of activities included in this reporting period include:

    - **RTI Handbook to DSA Guidelines.** RTI's ENVISION M&E team compiled a summary of WHO guidelines for DSA as a tool for helping to disseminate the latest WHO recommendations. RTI disseminated the handbook at the April 2015 Accra meeting. The next step is to have the capacity strengthening team convert these DSA guidelines into simple job aids.

- The M&E team are working with the capacity strengthening team to improve **measuring outcomes of global training** by developing new indicators and integrating capture of results into ENVISION's M&E system.

- The ICT advisor has taken the lead to **develop a strategic approach to consolidate our electronic tools** in order to lower management costs and to improve national program uptake by reducing tool overlap and complexity.

- The capacity strengthening and communications teams are actively supporting the creation and roll out of **the NTD webinar series,** which is being launched with a series of presentations on state-of-the-art M&E for NTDs.

2. A cross-ENVISION **working group on managing information flow** was established to address ideas for development of the workbooks. Team members include expertise on KM, M&E, ICT, and technical advisors. This working group is writing a plan that will address the longer term vision for data collection, management and dissemination that will focus on facilitating use of data by end users.

Ongoing meetings and activities will feed into a more defined KM strategy in FY16.

Communications

RTI has continued to disseminate strategies, tools, and lessons learnt by ENVISION. Several ENVISION staff attended the **63rd ASTMH Annual Meeting** held in New Orleans in November 2014. One symposium (co-organized by RTI) and 12 abstracts were accepted and presented by ENVISION staff at the meeting. A list of presentations is provided in Appendix B. All five symposia submitted for presentation at the 2015 ASTMH to be held in Philadelphia have been accepted. A further 19 abstracts were submitted by ENVISION and information on acceptance is awaited.

Peer-reviewed publications. During Q1-Q2, ENVISION staff published five peer-reviewed journal articles, listed below, and submitted one publication for review. A number of additional publications are in final review by ENVISION staff and co-authors for submission by the end of the fiscal year.

Watmon B, Lakwo TL, **Onapa AW** (2014) Blinding onchocerciasis in Pader District, Northern Uganda. *Journal of Ophthalmology of Eastern Central and South Africa* 18: 19-26.

Ichimori K, King JD, Engels D, Yajima A, Mikhailov A , Lammie P and **Ottesen EA** (2014). Global Programme to Eliminate Lymphatic Filariasis: the processes underlying programme success. *PLoS Negl Trop Dis* 8: e3328.

Ramaiah KD and **Ottesen EA** (2014) Progress and impact of 13 years of the Global Programme to Eliminate Lymphatic Filariasis on reducing the burden of filarial disease. *PLoS Negl Trop Dis* 8: e3319.

Hooper PJ, Chu B, Mikhailov A, **Ottesen EA** and Bradley M (2014). Assessing progress in reducing the at-risk population after 13 Years of the Global Programme to Eliminate Lymphatic Filariasis. *PLoS Negl Trop Dis* 8: e3333.

Flueckiger RM, Nikolay B, Gelderblom HC, Smith JL, Haddad D, Tack W, Hendrickx G, Addiss D, Cano J, Hatcher DR, Hopkins A, Pullan RL, **Pavluck A, Ottesen EA** and Brooker SJ (2015) Integrating data and resources on Neglected Tropical Diseases for better planning: the NTD mapping tool (www.NTDmap.org). *PLoS Negl Trop Dis* 9: e0003400.

Hugues C Nana-Djeunga, Jules B Tchatchueng-Mbougua, Jean G Bopda, Steve Mbickmen-Tchana, Annick Domo-Wafeu, Nathalie Elong, Julie Akame, **Ann Tarini, Yaobi Zhang**, Flobert Njiokou, Joseph Kamgno. Mapping of Bancroftian Filariasis in Cameroon: Prospects for Elimination. *PLoS Neg Trop Dis* (submitted)

ENVISION website and social media. RTI continued to expand its discussion on NTD control and elimination on social media, providing real time updates of important country program activities supported by ENVISION and bringing attention to critical issues facing NTD control programs. RTI now has 829 followers (individuals and institutions) for @RTIfightsNTDs, a 38% increase from the previous year, and has put out over 1,800 tweets on NTD activities in countries supported by the ENVISION project. The ENVISION Project website www.NTDenvision.org saw an increase of 11.6% in page views over the previous reporting period, with over 12,350 pages viewed during in the last six month; the ENVISION Facebook page continues to catalogue the images of project activities and events over time.

Data Management and Use

USAID's NTD Database for data analysis and visualization. The USAID NTD Database officially went live in September 2013. The database is now being routinely used to submit, review, and provide feedback on USAID NTD project data. Since the official release, efforts are focused on expanding the system's reporting capabilities so that data can be easily accessed in report form for quick review and analysis.

The USAID NTD Database Report Builder, while still in development, has been rolled out to a limited number of users internally at RTI and within the USAID NTD team. Data collected through ENVISION, as well as the FHI360-implemented END in Asia and END in Africa projects are now available in the form of pre-calculated, standardized indicators at district, regional, and national level for all 25 countries within USAID's NTD program portfolio, as all of the countries' data were uploaded into the database by the end of the first quarter of this fiscal year. **There are already more than 24 million data points stored in the database and available for analysis, reporting and action.** The Report Builder organizes these values into the indicators determined by USAID to measure project performance and progress towards disease elimination and control. It is the shared vision of USAID and RTI and its partners to make the data collected by the projects as accessible, transparent, and actionable as possible while still respecting national data ownership. These data will serve as a guide for discussing the success of these interventions as well as areas in need of targeted investment and project improvement. To ensure that USAID NTD Database geography data is representing the most up to date national information, RTI is working with ITI and other partners to harmonize the USAID NTD database geographic information. Later this year, at the request of the USAID, data reports will be augmented with web-based layer maps to further visualize areas of success as well as highlight gaps in services and coverage.

The USAID NTD database is the result of the strong and continuous collaborative effort between national programs and ENVISION staff, led by the M&E team and in-county staff, to collect, validate, review, and manage national program data stored within this system.

Support for USAID's M&E System. During the first half of FY15, RTI began compiling proposed changes to USAID data capture forms, the Disease and Program Workbooks. This activity was undertaken so that ENVISION can make improvements based on user feedback, incorporate changes in the global guidelines (e.g., ALB 2x/year in LF-Loa loa co-endemic areas), and perhaps most importantly, make sure that the data capture tools are giving USAID and its NTD projects sufficient data that can be used to inform their work. Additionally, RTI considered the best approach to capture USAID-supported DSA results. During the second half of the year, RTI and USAID will meet to discuss proposed changes and determine the best updated approach to data capture.

Support USAID staff with Agency Reporting. RTI's ENVISION M&E team provided ongoing technical assistance as needed to the USAID NTD Team for the various reporting requirements for the agency, including portfolio review and other agency reports such as Global Health Initiative (GHI) projections. RTI also assisted USAID to compile data that was presented by USAID's Assistant Administrator for Global Health Ariel Pablos-Méndez at a House of Representatives hearing in April 2015.

Review of USAID NTD Project Data. During the reporting period, RTI reviewed data for 25 countries supported by the USAID NTD projects, i.e., ENVISION, END in Africa and END in Asia. RTI liaised with USAID, END in Africa, and END in Asia to provide consolidated feedback on FY13, FY14, and FY15 data for those projects. Through this effort, RTI aims to ensure that data across the 25 countries are high quality for appropriate interpretation and use, standardized to facilitate reporting, and accessible to the appropriate individuals for decision-making while respecting national ownership.

Cost Share

ENVISION is committed to utilizing cost share in order to expand the reach and impact of USAID-funded activities for NTD control and elimination. Resources developed during this reporting period include:

- **RTI** captures cost share generated at the district level through its grants to local non-governmental organizations (NGO) in **Indonesia**. On average, districts contribute approximately 5% of costs to the overall LF/STH MDA budget to support activities such as coordination meetings, per diems and transportation costs for supervision, information, education, communication (IEC) materials, and drug logistics.
- **HKI** continued to mobilize resources in **Mali** from the **END Fund** to conduct school and community mobilization, training, IEC material printing, community drug distributor (CDD) incentives, drug delivery, supervision, and impact studies. HKI also partnered with the **Conrad N. Hilton Foundation** to obtain funding for the S component of the Surgery, Antibiotics, Facial Cleanliness Environmental Improvement (SAFE) strategy for trachoma, training and M&E.
- **Sightsavers** used foregone indirect rate costs for cost share purposes in **Zimbabwe.**

PROGRESS ACROSS DISEASES

Continuum of Progress towards NTD Elimination and Control

For all diseases, national NTD programs are working to map 100% of suspected endemic districts, and start MDA in 100% of districts requiring treatment. This is typically considered the "scale-up" phase of NTD program implementation. After successive years of MDA and implementation of complementary interventions, programs carry out disease-specific assessments to determine whether interventions can stop—the aim of this "scale-down" phase is to stop MDA in 100% of endemic districts and eventually validate disease elimination.

Figure 3 below (and the subsequent similar figures by NTD) use data from the USAID NTD database to illustrate progress toward NTD elimination or control for each of the ENVISION-supported countries by presenting the proportion of districts at each stage of the continuum at the time of this report. For example, Haiti has 2 NTDs targeted by the ENVISION project; 100% of districts in Haiti have been mapped for both NTDs and 100% of endemic districts have started MDA. Additionally, 14% of endemic districts have stopped MDA, but the country has not yet been validated for elimination of LF.

As Figure 3 demonstrates, the 14 countries supported by ENVISION are at various stages in progress towards NTD control and elimination. Baseline mapping is complete for all NTDs in the majority of ENVISION countries, with some gaps remaining for multiple diseases in DRC and Ethiopia, and one disease in Indonesia, Mali, and Senegal. It is anticipated that by the end of FY15, all countries will have mapped all diseases, except where this was not possible due to reasons outside of the project's control (e.g., security in DRC, Ethiopia, and Mali; Ebola in Guinea). Illustrations of country specific progress in reaching NTD milestones are provided in Appendix C.

ENVISION's overall efforts are focused on supporting countries to scale up to obtain 100% geographic coverage of at-risk populations, with high program and epidemiological coverage. As of March 2015, national geographic scale has been reached for all diseases in Haiti, Nepal, and Uganda, while additional scale-up is required for at least one disease in the other countries. ENVISION will continue to provide technical, operational, financial, and advocacy support for countries to ensure national scale is reached by 2016, in order to achieve the global 2020 goals for the NTDs targeted by ENVISION.

Figure 3: Progress of ENVISION-supported countries in reaching NTD milestones
Data as of April 2015. Figure illustrates the proportion of districts in country having reached milestone.

Country	# Diseases	Mapping	MDA Started	MDA Stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
Haiti	2	100%	100%	14%	No
Nepal	3	100%	100%	61%	No
Uganda	5	100%	100%	34%	No
Mali	5	99%	99%	31%	No
Tanzania	5	100%	90%	14%	No
Cameroon	5	100%	89%	11%	No
Nigeria	5	100%	83%	7%	No
Senegal	5	82%	82%	2%	No
Mozambique	5	100%	73%	0%	No
Guinea	5	98%	71%	0%	No
Indonesia	3	97%	69%	10%	No
Benin	5	100%	54%	15%	No
Ethiopia	5	89%	34%	0%	No
DRC	5	76%	20%	0%	No

Due to the substantial investment made by national NTD programs, USAID, drug donation programs, and other partners to date, multiple ENVISION countries are starting to implement DSA that measure the impact of MDA and other interventions on disease transmission. Indeed, many countries have entered a post-MDA surveillance phase for LF, onchocerciasis, and/or trachoma, including Benin, Cameroon, Haiti, Indonesia, Mali, Nepal, and Uganda. It is anticipated that many more districts will become eligible for DSA and move into a post-MDA surveillance phase in the coming months and years. Further details can be found in the disease-specific sections and country reports. Projection of continued progress beyond FY15 for ENVISION supported countries is provided in Table 3.

Table 3. Projected progress to NTD (LF and trachoma) elimination and control					
Phase 1	Mapping and situation analysis of disease; capacity building to conduct MDA				
Phase 2	Any MDA, whether in scale-up or successive years of MDA at national coverage				
Phase 3	Any disease specific assessment, some districts qualified to stop MDA				
Phase 4	Post-endemic surveillance				
Validation	Country is eligible to apply for WHO dossier validating elimination of disease, reaching global targets				
Country	**Disease**	**2014**	**2016**	**2018**	**2020**
Benin	LF	2,3	2,3	3	4
	Trachoma	1	2	2	3
Cameroon	LF	2,3	2,3	3	4
	Trachoma	2,3	2,3	3,4	4
Democratic Republic of Congo (DRC)	LF	1	2	2	2,3
	Trachoma	1	2	2	2,3
Ethiopia	LF	2	2	2	3,4
	Trachoma	1	2	2,3,4	3,4
Guinea	LF	1,2	2	2	3
	Trachoma	1,2	2	2,3	3
Haiti	LF	2,3	2,3	4	4/ Validation
	Trachoma	N/A			
Indonesia	LF	2	2,3	3,4	4
	Trachoma	N/A			
Mali	LF	2,3	2,3, 4	3, 4	4
	Trachoma	2,3, 4	3,4	4	Validation
Mozambique	LF	2	2,3	4	Validation
	Trachoma	1,2	2	3	4/Validation
Nepal	LF	2,3	2,3	3,4	4/Validation
	Trachoma	2,3	4	Validation	Validation
Nigeria	LF	1,2,3	2,3,4	2,3,4	3,4
	Trachoma	2,3	4	4	4
Senegal	LF	3	3,4	4	4
	Trachoma	1,3	3	4	4
Tanzania	LF	1,2	2,3	2,3,4	4/Validation
	Trachoma	1,2,3,4	2,3,4	2,3,4	3,4
Uganda	LF	**2,3**	**3**	Validation	
	Trachoma	1,2,3	**2,3**	3	Validation

Districts and Persons Treated under ENVISION

In the first half of FY15, ENVISION supported MDA in five countries including assistance for strategic planning, advocacy, social mobilization, cascaded training, drug distribution, supervision, drug logistics, and M&E. Across all national NTD programs supported by ENVISION, **in FY15 21 million people were treated with over 43 million treatments**, based on reported data. By the end of the year, **these numbers are expected to climb to 108 million people treated with 220 million treatments**.

Table 4 provides an overview of MDA results in the first half of FY15 by country; however, for many countries, MDA is still to be implemented and/or reported.

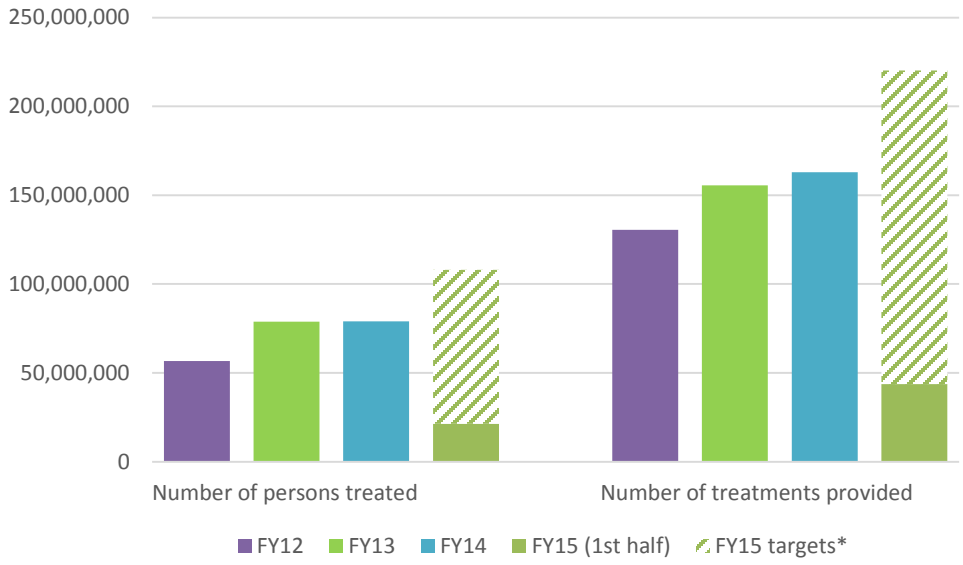
Table 4. ENVISION support for MDA in FY15 Q1-Q2

Country	# of districts targeted in FY15	# of districts treated in Q1-Q2 (reported)	# of persons targeted in FY15*	# of persons treated in Q1-Q2 (reported)	# treatments provided in Q1-Q2 (reported)
Benin	70	-	5,735,989	-	-
Cameroon	181	-	12,115,088	-	-
DRC	6	-	487,943	-	-
Ethiopia	108	49	7,999,296	2,890,184	3,236,354
Guinea	12	-	2,648,384	-	-
Haiti	56	12	2,643,640	260,484	260,484
Indonesia	50	-	13,515,141	-	-
Mali	63	-	11,401,607	-	-
Mozambique	35	-	3,699,166	-	-
Nepal	18	9	5,953,211	2,103,670	4,207,340
Nigeria	155	-	18,125,286	-	-
Tanzania	81	54	10,963,017	9,846,365	23,339,682
Uganda	77	38	12,775,208	6,171,539	12,683,394
Total	**912**	**162**	**108,062,976**	**21,272,242**	**43,727,254**

*Targets reflect expected population to be treated and may not represent entire eligible population.

Since the beginning of ENVISION, nearly half a billion treatments (492 million) have been provided with USAID support. Indeed, as can be seen in Figure 4, there was nearly a 25% increase in treatments delivered between FY12 and FY14, representing scale-up in additional countries (i.e., Benin, Ethiopia, Mozambique, and Nigeria), as well as geographic scale-up within countries (e.g., Indonesia). Cameroon has consistently delivered the highest number of treatments of all the ENVISION countries, indicating the successful management of MDA for five NTDs in large populations.

Figure 4. Treatments delivered through ENVISION by fiscal year



Coverage Analysis

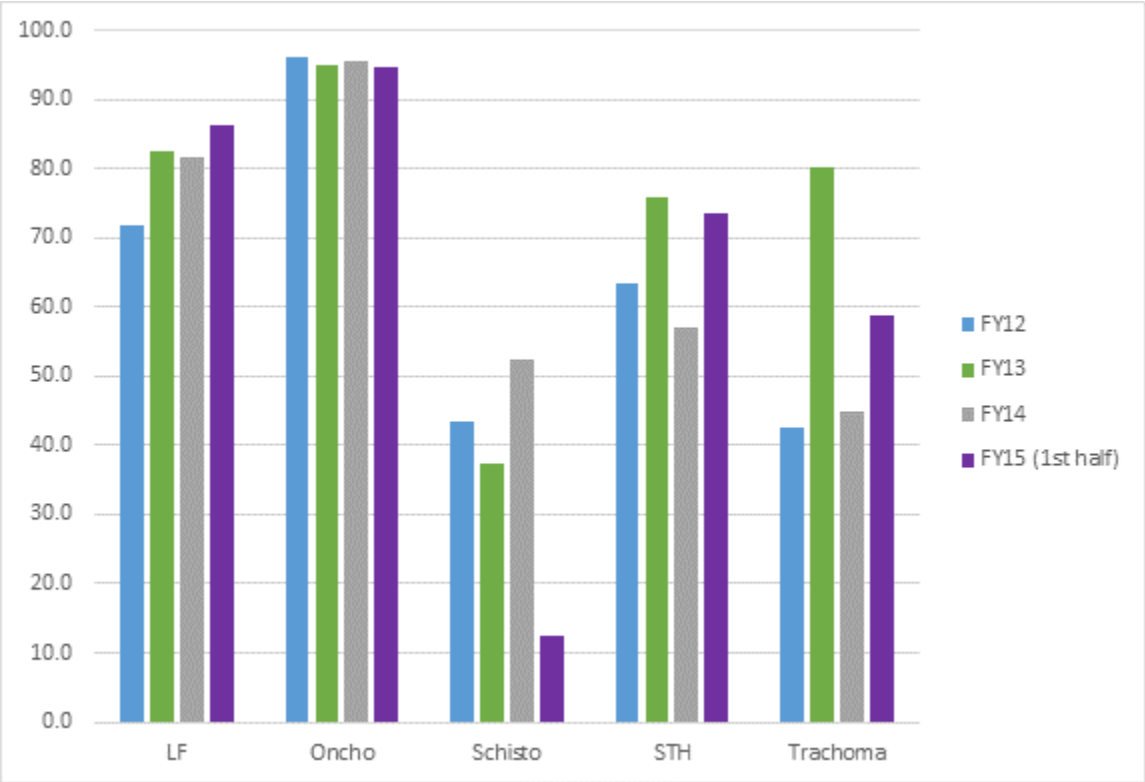
The eligible population targeted for MDA is determined by national programs either by the percentage of at-risk population estimated by national census projections, or pre-MDA registration process and removing those not eligible due to drug eligbility and dosing protocols. Over the life of ENVISION, **nearly 3/4 of targeted districts have achieved sufficient program coverage,** as defined by proportion of eligible persons targeted with USAID support that were treated[2]. MDA coverage does vary by disease, as seen in Figure 5.

The majority of districts supported by USAID for onchocerciasis have achieved sufficient coverage. This reflects the longstanding engagement that onchocerciasis programs have had with communities, and the implementation of pre-MDA registration to identify the target population that is used for the denominator. The proportion of USAID-supported districts treated for LF achieving sufficient coverage has increased over the life of ENVISION, while the proportion of USAID-supported districts that have achieved sufficient program coverage for SCH, STH, and trachoma has fluctuated. SCH continues to have low coverage compared to other diseases. One of the reported reasons for low SCH coverage is the difficulty to accurately determine the eligible population targeted. In line with WHO guidance, when there is limited information available, some countries calculate the target population using a percentage of the total population, which may not accurately reflect the focal nature of the disease or eligible population. Additionally, SCH programs often use school-based platforms, but school-based programs are dependent on coordination with the education system in addition to the health system. When NTD activities are delayed, such as due to delayed fixed obligation grant (FOG) approval in Cameroon in FY13,

[2] Program Coverage: # persons treated / # eligible persons targeted * 100; program goal is 80%.

the MDA implementation timeline may no longer coincide with the school calendar, resulting in competing priorities as teachers focus on exams and/or implementing MDA when school attendance may be low (e.g., Benin in FY13). In addition, school-based platforms may not be effectively reaching children that do not attend school (e.g., Benin in FY14). Additional discussion regarding coverage results can be found in the following section, Progress by Disease.

Figure 5. Proportion of ENVISION-supported districts achieving sufficient program coverage



PROGRESS BY DISEASE

This section provides progress updates by disease for the 14 countries supported by ENVISION with information on project activities and results, as well as disease specific issues and challenges. Please refer to the FY15 Country Semi-Annual Reports for the latest activity updates on each ENVISION supported country program.

Lymphatic Filariasis

USAID's goal for LF is to help countries achieve the World Health Assembly resolution to eliminate LF as a public health problem by 2020. The need to harmonize elimination guidance across NTDs and other diseases at WHO has led to uncertainties over the past year about what evidence countries will need to provide to prove elimination of LF. The Global Programme to Eliminate LF (GPELF) will propose to the April 2015 NTD-STAG standard operating procedures for 'validation of elimination of LF as a public health problem' as a first step on the pathway to verification of interruption of transmission. This validation will be based on information showing the delineation of endemicity in the country, data showing that each endemic implementation unit (IU) has passed three TAS, and information on estimated number of lymphedema and hydrocele cases, as well as availability and quality of basic morbidity services.

Contributions to global policies and guidelines

In Q1-Q2, ENVISION provided support for these global guidelines around documenting elimination, specifically in developing and piloting the LF elimination dossier template. The LF dossier narrative template and Excel data annex, developed by ENVISION (Molly Brady) in coordination with WHO, was piloted in Bangladesh and Cambodia under the TAF in collaboration with FHI360. Based on feedback from the piloting, WHO prepared a final draft for inclusion in the standard operating procedures (SOPs) to be presented to the NTD-STAG in late April, 2015. ENVISION (Molly Brady) also contributed to updating the new TAS eligibility and planning form and the Epidemiological Data Reporting Form (EPIRF) to ensure harmonization among all WHO forms.

Contributions to global meetings

The Global Alliance for Elimination of LF had their biennial meeting in Addis Ababa, Ethiopia in December 2014 back-to-back with onchocerciasis, SCH, and STH coordination meetings. Lisa Rotondo, Eric Ottesen, Achille Kabore, and Scott McPherson attended on behalf of ENVISION. The alliance advocated for a prioritization of support to the ten countries which carry 82% of the geographic MDA coverage gap, among these the ENVISION-supported countries of Nigeria, Indonesia, DRC, Ethiopia, and Tanzania. In addition, the meeting recommended that country programs, donors and NGOs increase attention spent on the LF morbidity management and disability prevention (MMDP) activities of basic lymphedema care and hydrocele surgery in order to meet the GPELF Strategic Plan 2010-2020 target of 100% geographic coverage of MMDP services.

ENVISION (Lisa Rotondo and Achille Kabore) participated in the Africa Regional Office (AFRO) RPRG meeting in Brazzaville, Republic of Congo, in February 2015, where they aided in review of AFRO LF mapping results from DRC, Gabon, Nigeria, and Zimbabwe, and TAS eligibility forms and TAS results from seven countries, including Mali, Guinea and Uganda.

An LF post-MDA surveillance meeting included in the ENVISION FY15 work plan will take place after further antibody data analysis is conducted by the Taskforce for Global Health (TFGH) and other investigators, likely in late FY15 or early FY16.

Katie Crowley attended TCC's first annual Hispaniola Program Review in February 2015. The Bill and Melinda Gates Foundation recently awarded the CDC Foundation and partners, TCC and PATH, $29.9M to eliminate malaria in Hispaniola. Representatives from the Haiti and Dominican Republic MOHs presented the status of the LF and malaria programs. Areas for coordination between the two programs were discussed, including current integrated TAS/malaria surveys ongoing in ENVISION-supported areas where ENVISION is funding TAS and CDC is funding the malaria rapid diagnostic testing component. ENVISION will continue to collaborate with TCC and CDC as is appropriate.

Overview of LF status in countries supported by ENVISION

Over 448 million people –or approximately 36% of the global population at risk– are at risk of LF in ENVISION-supported countries (Table 5). Over 39 million people in the 14 ENVISION countries now live in areas where stopping-MDA criteria have been achieved – in large part due to assistance from USAID for MDA, sentinel and spot-check site surveys and/or TAS. Over the next two years, these countries will see a dramatic shift towards stopping MDA (Figure 6), with **approximately 246 districts projected to implement TAS1 in calendar year 2016 and 263 in calendar year 2017**.

Disease status as of April 2015

Table 5. LF endemicity status by country

Country	# Endemic districts	# Non-Endemic Districts	# Districts where MDA ever implemented	# Districts where criteria for stopping MDA achieved	# Districts requiring mapping	# Persons at risk	# Persons living in areas where criteria for stopping MDA achieved
Benin*	27	27	48	23	-	3,898,884	2,650,722
Cameroon	153	23	134	5	-	17,541,712	789,906
DRC	225	259	0	-	33	33,027,536	-
Ethiopia	111	728	37	-	-	10,794,913	-
Guinea	24	14	4	-	-	8,573,287	-
Haiti	120	-	140	20	-	10,412,100	853,608
Indonesia	212	229	126	24	49	89,543,075	13,509,297
Mali	61	-	63	2	-	17,092,154	726,845
Mozambique	104	38	104	-	-	18,715,631	-
Nepal	41	14	61	20	-	15,981,384	9,808,207
Nigeria#	110	28	126	30	-	23,676,619	6,454,170
Senegal	50	26	13	-	-	8,258,869	-
Tanzania	160	-	103	6	-	42,022,844	1,430,660
Uganda	38	58	54	16	-	11,315,282	2,834,870
TOTAL	**1,437**	**1,444**	**1013**	**146**	**82**	**310,854,290**	**39,058,285**

**Persons at-risk in Benin were determined using the national census projections. This figure is known to be inflated and will be updated once MDA registration has been conducted.*

 # Only includes ENVISION-supported states.

Figure 6. Country progress through GPELF program steps

Data as of April 2015. Figure illustrates the proportion of districts in country having reached milestone.

	Mapping	MDA started	Post-MDA surveillance	Validation
Haiti	100%	100%	14%	No
Mali	100%	100%	3%	No
Mozambique	100%	100%	0%	No
Nepal	100%	100%	33%	No
Uganda	100%	100%	30%	No
Benin	100%	96%	46%	No
Nigeria*	100%	90%	21%	No
Cameroon	100%	85%	4%	No
Tanzania	100%	66%	4%	No
Indonesia	90%	59%	10%	No
Ethiopia	100%	33%	0%	No
Senegal	100%	26%	0%	No
Guinea	100%	17%	0%	No
DRC	94%	0%	0%	No

**Only in ENVISION-supported states*

Mapping

Only Indonesia and DRC have districts still requiring initial mapping for LF. Indonesia and DRC (with support from the Liverpool School of Tropical Medicine Centre for Neglected Tropical Diseases [CNTD]) are on track to finish mapping all districts by the end of FY15. Re-mapping in areas where initial results were close to the 1% threshold or where second assessments did not confirm initial findings was started in Ethiopia and Tanzania in Q1-2 in collaboration with the TFGH, and will be finished in these countries, as well as in Indonesia, in Q3-Q4. Thus, **by the beginning of FY16, no ENVISION-supported country should require mapping for LF**, a remarkable achievement for MOHs and their stakeholders.

MDA

Support to LF MDA has continued to grow over the life of ENVISION, with 616 districts targeted to be treated in FY15 (Table 6). Likewise, while ENVISION treated 50 million people through LF MDA in FY2012, this number had grown to over 60.5 million people by FY14. Geographic scale down has been incremental in most countries (Table 2), with the exception of Benin where almost half of districts have stopped MDA and Haiti, which is implementing TAS1 in approximately 44% of its endemic districts in FY15.

Table 6. Geographic scale up/scale down of LF MDA

Country	FY12		FY13		FY14		FY15		FY15 (1st half)	
	Districts treated with USAID support	Districts treated with all support	Districts treated with USAID support	Districts treated with all support	Districts treated with USAID support	Districts treated with all support	Districts targeted for USAID support	Districts targeted for all support	Districts treated with USAID support	Districts treated with all support
Benin	0	0	25	25	25	25	25	25	0	0
Cameroon	133	133	134	134	134	134	144	144	0	0
DRC	0	0	0	0	0	0	6	6	0	0
Ethiopia	0	0	0	0	0	13	19	19	12	12
Guinea	0	0	0	0	4	4	9	11	0	0
Haiti	106	137	106	126	97	112	56	77	0	0
Indonesia[#]	29	100	39	94	39	89	50	126	0	20
Mali	0	45	0	48	11	14	61	61	0	0
Mozambique	0	0	0	50	0	101	0	104	0	0
Nepal	46	46	56	56	41	41	18	41	9	21
Nigeria*	0	0	0	0	95	95	110	110	0	0
Senegal (PSSC II)	0	0	13	13	6	6	50	50	0	0
Tanzania (ENVISION only)**	52	98	53	99	0	0	53	102	53	100
Uganda[##]	45	45	24	24	52	52	48	48	20	20
TOTAL	**411**	**604**	**450**	**669**	**504**	**686**	**649**	**924**	**94**	**173**

** Nigeria only includes ENVISION-supported states.*

[#]In Indonesia, districts treated with all support include data from two different MDA rounds, i.e., USAID-supported districts for 2012 MDA and GoI-supported districts for 2011 MDA are reported in FY12, etc.

***MDA in Tanzania took place in October 2014, so will be captured in FY15 reporting.*

[##]FY13 MDA in Uganda was delayed until October/November 2013, so was captured in FY14 reporting; likewise for FY14 MDA and FY15 MDA.

PSSC II: USAID's Programme Santé Santé Communautaire II

In order to be eligible for stopping MDA, districts must have implemented at least five rounds of MDA with ≥65% coverage of the total population (epidemiological coverage). Most USAID-supported districts have achieved this criterion, with a greater percentage of districts achieving sufficient coverage in FY14 than in previous years in Benin, Haiti, Indonesia, Nepal, Senegal, and Tanzania (Table 7). In general, problems with achieving appropriate coverage are concentrated in urban populations or in areas with previous adverse and SAEs. ENVISION is working with the TFGH to determine best ways to micro-map urban areas to determine how to focus MDA and working with MOH and local communication and behavior change organizations to improve messaging around SAEs.

Table 7. ENVISION-supported districts achieving epidemiological coverage for LF MDA

Country	FY12	FY13	FY14	FY15 (1st half)
Benin		96%	100%	
Cameroon	98%	91%	91%	
DRC				
Ethiopia				100%
Guinea*			25%	
Haiti	95%	99%	99%	
Indonesia	74%	90%	95%	
Mali			64%	
Mozambique				
Nepal	63%	78%	85%	78%
Nigeria#			81%	
Senegal (PSSC II)		23%	50%	
Tanzania (ENVISION)	48%	75%		96%
Uganda	53%	71%	46%	55%

**Using census data as denominator. When coverage surveys were done, surveyed coverage was found to be >=65%.*

 # Nigeria achieved at least 80% coverage of targeted population in 81% of USAID-supported districts. Targeted population was used a denominator for coverage for Nigeria because MDA only took place in areas of the district that had previous ivermectin MDA for onchocerciasis, due to concerns with risk of SAEs in potential loiasis co-endemic areas in the rest of the district.

The largest challenges to clear guidance on implementation of LF MDA are co-endemicity with other diseases. For example, throughout Africa, there are 1104 districts in 28 countries that are potentially co-endemic for LF and onchocerciasis. This has raised concerns about how to efficiently evaluate the success of each disease program independently, e.g., should a LF TAS be implemented to determine whether to stop LF MDA if the program knows onchocerciasis MDA will need to continue? The WHO M&E working group recommended the following in February 2015:

- In areas with both LF and onchocerciasis, the district should be the implementation unit (IU) for MDA;
- Therapeutic or epidemiological coverage is equal to the number of individuals ingesting the PC medicines at IU level divided by the total population of an IU;
- Countries should, where feasible, align timing of impact assessments (TAS and epidemiological/entomological evaluations) to make coordinated stop MDA decisions; and
    - Where this is not possible, if an IU is eligible for TAS, TAS should be undertaken and LF MDA stopped if the evaluation unit (EU) passes. If onchocerciasis MDA is still necessary, MDA should switch from ivermectin (IVM) + albendazole (ALB) to IVM only.

ENVISION will recommend that countries follow these recommendations, particularly with regard to scheduling of TAS.

In addition, Cameroon, DRC, and Nigeria all have districts that are potentially co-endemic with loiasis, resulting in challenges with how to safely implement LF MDA in these areas. WHO recommends twice yearly albendazole treatment and vector control activities (coordinated with malaria programs, if possible) in areas with any evidence of loiasis (measured by >0% RAPLOA). ENVISION is contributing to the knowledge base around LF and loiasis by supporting a pilot of twice annual ALB MDA in 10 of the 24 co-endemic districts in northern Cameroon (which also have insecticide-treated net coverage supported by the malaria program), while collaborating with the TFGH to collect monitoring data from sentinel and spot-check sites. In addition, in Nigeria, mapping is ongoing to determine loiasis endemicity in IVM - naïve areas, with the plan to implement MDA with IVM and ALB throughout the district in non-loiasis districts and ALB monotherapy in the parts of districts confirmed co-endemic with loiasis.

Transmission assessment surveys

ENVISION has supported TAS since FY12, with 87% of EUs implementing TAS1 thus far passing, and 100% of EUs implementing TAS2 passing. Almost all those EUs that did not pass were from Brugia-endemic areas in Indonesia, where antibody tests are used, likely imposing a more conservative threshold for passing. Pre-TAS results in a variety of countries, including Benin, Tanzania, Haiti, and Nepal, have shown that districts with high baseline prevalence sometimes need more than five rounds of MDA, even with good coverage. These instances of pre-TAS 'failure' have shown dramatic decreases from baseline prevalence after 5 years of effective MDA, but still show microfilaremia (mf) rates above 1% or antigen rates above 2%. This is not surprising, as the number of rounds needed depends on baseline prevalence, vector, drugs used, as well as coverage.

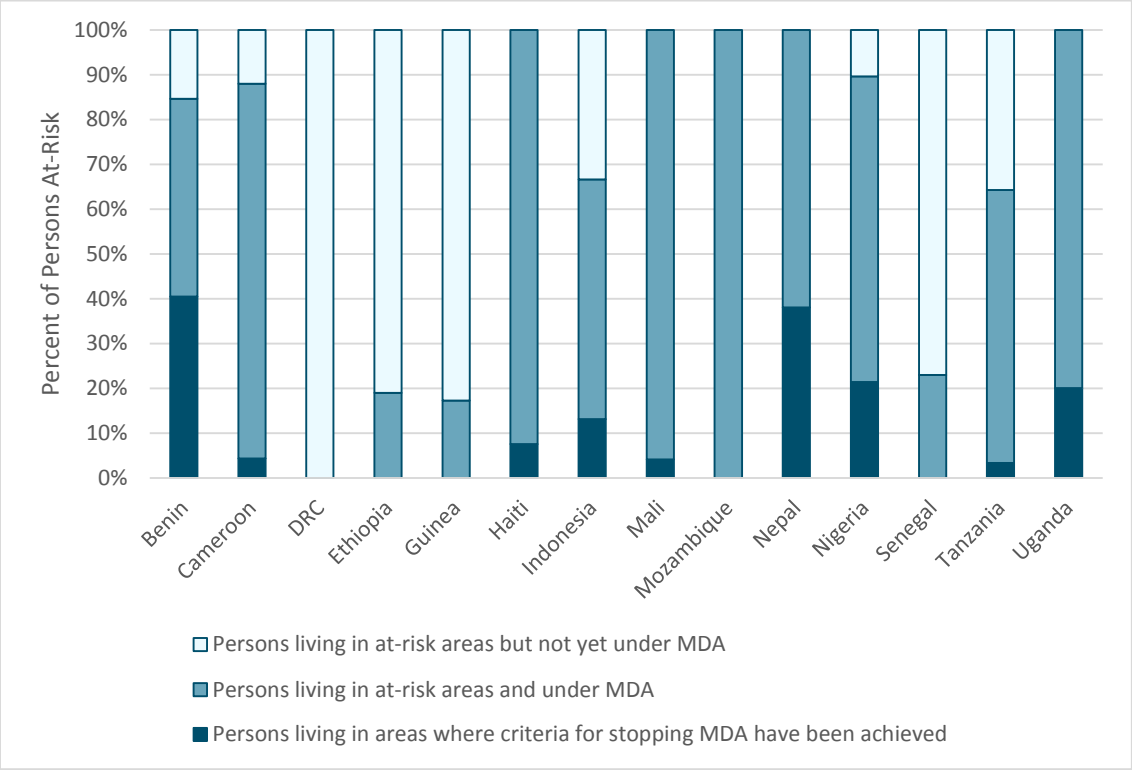
The process of getting approval for TAS should be easier in FY16, with more WHO HQ engagement in managing Filariasis Test Strip (FTS) supply and coordinating RPRG TAS eligibility responses. However, there are still details to work out with WHO and Alere Inc. (the manufacturer of FTS) regarding cost of the tests to purchase for non-TAS use (e.g. pre-TAS, mapping, etc.). ENVISION is coordinating with USAID, WHO and FHI360 to ensure adequate support to countries to obtain the necessary immunochromatographic tests (ICTs) or FTSs in the coming months.

Currently, there are no ENVISION-supported countries that have districts eligible for TAS that are overdue, i.e., are eligible for TAS but are continuing or have stopped MDA without having TAS planned for implementation. "Overdue" surveys do not include TAS that have been postponed due to changes in work plan timeline or due to insecurity issues that do not allow implementation of programmatic activities. In addition, all ENVISION countries have surveyors that have been trained in TAS (either at the MOH or universities). However, the increase in number of surveys per year in the coming years will necessitate capacity building within countries- and potentially partnerships with academic institutions – to ensure all TAS can happen at appropriate times.

Figure 7 shows current progress towards elimination. In many ENVISION countries, the national programs are on track to stop MDA in all districts by 2020. However, there are still funding gaps in DRC, Ethiopia, Indonesia, and Tanzania that are preventing full geographic coverage with MDA.

Figure 7. Progress toward LF elimination in ENVISION supported countries

Data as of April 2015



** Nigeria only includes ENVISION-supported states.*

Trachoma

USAID's goal for trachoma is to assist countries to achieve the World Health Assembly resolution 51.11 of eliminating trachoma as a public health problem by 2020. Similar to LF, WHO is making progress with the development of global guidelines for how to achieve trachoma elimination. In September 2014, the M&E subgroup of WHO's NTD-STAG developed proposed SOPs for trachoma surveillance and impact surveys. ENVISION-supported countries (e.g., Nepal) put these SOPs into operation during this reporting period, thus gathering useful information for WHO and contributing to the global policy dialogue around trachoma.

The WHO NTD roadmap has set elimination and eradication targets for 11 NTDs, including trachoma. According to WHO, "SOPs for validating 'elimination [of trachoma] as a public health problem', verifying 'elimination of transmission' and certifying 'eradication' need to be firmly established and standardized for:

- Preparation of, review of and feedback on dossiers requesting validation, verification, or certification in a member state;
- Public acknowledgement by WHO of validation, verification, or certification of a member state; and
- Activities in the post-validation, post-verification, or post-certification phase in a member state (which may be intended to either sustain the disease burden under the targeted threshold or continue progress towards a more advanced goal)."

Following the above mentioned meeting, the WHO Trachoma Medical Officer (Anthony Solomon) prepared a document defining principles to regulate those SOPs for trachoma that was presented to the NTD-STAG in April 2015.

Contributions to global policies and guidelines

In FY15, ENVISION has participated more actively as a member of the Global Trachoma Mapping Project (GTMP) Advisory Committee. Lisa Rotondo and Alex Pavluck attended its March 1, 2015, meeting in Atlanta. They had the opportunity to advise on ENVISION-supported countries' progress in trachoma mapping, obstacles faced, innovations around mobile data capture, and partnerships with the U.K. Department for International Development (DfID)-funded project.

Through collaboration with the Johns Hopkins University Dana Center for Preventive Ophthalmology (Sheila West), RTI supported the MOH in Nepal to collaborate on operational research informing future trachoma surveillance techniques, using multiple diagnostics and clinical examination.

Contributions to global meetings

During Q1-Q2, ENVISION staff contributed actively at many trachoma-related meetings. Lisa Rotondo, Achille Kabore, Alexis Serna, and Benjamin Nwobi participated at the March 2015 TCC Trachoma

Program review; this meeting gave the opportunity to meet with MOHs (particularly from Nigeria, Uganda, and Ethiopia, i.e., key ENVISION countries) and participate in discussions about the application of the new WHO SOPs for trachoma surveillance and impact surveys. Alex Pavluck also participated in a strategic planning meeting for the International Coalition for Trachoma Control (ICTC), informing the process that will guide this strategic coalition of NGOs as trachoma elimination targets grow near.

Alexis Serna and Benjamin Nwobi represented the project at the ITI Zithromax® (ZTH) forecasting meeting in Atlanta in March 2015. This gathering provided RTI and ITI staff the opportunity to review MOH forecasts for ZTH needs in detail, as well as discuss timing of impact surveys and projections for the coming year. Lisa Rotondo was an invited guest to the ITI TEC meeting in Atlanta in November 2014. She also was a member of the Technical Advisory Group assisting in the development of the SAFE costing tool in collaboration with the ICTC.

Overview of trachoma status in countries supported by ENVISION

Of the 14 ENVISION-supported countries, 12 are now known to be trachoma endemic: Benin, Cameroon, DRC, Ethiopia, Guinea, Mali, Mozambique, Nepal, Nigeria, Senegal, Tanzania, and Uganda. At the outset of the ENVISION project, only Mali had been fully mapped and trachoma experts were still debating whether trachoma was endemic and needed mapping in Benin and DRC. Because of the Global Trachoma Mapping Project (GTMP)'s unprecedented partnership, mapping is either underway or complete in all 12 countries, currently tallying a total of 777 endemic districts. The challenge before the MOHs and their stakeholders is clear and can be quantified, enabling partners to advocate for the necessary funding and resources (including the Pfizer-donated ZTH) to scale up implementation of the SAFE strategy. Table 8 provides a summary status of trachoma in the 12 ENVISION-supported, trachoma-endemic countries.

Table 8. Status of trachoma in ENVISION-supported countries as of April 2015*					
Country	**# Endemic districts**	**# Districts where criteria for stopping district-level MDA achieved**	**# Districts requiring mapping**	**# Persons at risk**	**# Persons living in areas where criteria for stopping district-level MDA achieved**
Benin	8	-	-	1,173,099	-
Cameroon	17	6	-	2,216,369	733,741
DRC	data compilation ongoing	-	35	data compilation ongoing	-
Ethiopia	571	-	52	69,202,731	-
Guinea	9	-	4	2,799,370	-
Mali	50	49	-	200,183	14,850,998
Mozambique	35	-	-	4,623,957	-
Nepal**	2	17	-	518,109	8,185,818
Nigeria	7	-	-	424,264	636,885
Senegal	18	-	3	2,711,686	-
Tanzania	34	20	-	8,256,647	5,603,903
Uganda	26	19	-	6,488,793	5,135,817
TOTAL	**777**	**111**	**94**	**98,615,208**	**35,147,162**

*N.B., during this reporting period, districts with <10% TF but were treated according to guidelines are considered endemic.

** In Nepal, 1 district (Achham) is counted as 'endemic' and 'having achieved the criteria for stopping district-level MDA' as the district only needed sub-district level treatment. 2 districts where only targeted treatment was conducted are not included in any columns to be in line with USAID requirements.

Figure 8 illustrates overall progress toward the elimination of blindness due to trachoma in ENVISION supported countries.

Figure 8. Progress in achieving milestones for trachoma

Data as of April 2015. Figure illustrates the proportion of districts in country having reached milestone.

	Mapping	MDA started	MDA stopped (at district level)	Validation
Nepal	100%	100%	89%	No
Mali	100%	100%	49%	No
Uganda	100%	100%	35%	No
Cameroon	100%	100%	29%	No
Nigeria*	100%	100%	0%	No
Senegal	100%	95%	5%	No
Tanzania	100%	92%	38%	No
Guinea	89%	89%	0%	No
Mozambique	100%	60%	0%	No
Ethiopia	94%	53%	0%	No
Benin	100%	0%	0%	No
DRC	77%	0%	0%	No

**Only in ENVISION-supported states*

Mapping

A total of 41 districts were mapped for trachoma during the reporting period (29 of which were mapped with ENVISION support) in Benin, DRC, Mozambique, and Senegal, further closing the global trachoma mapping gap. All mapping conducted under ENVISION follows global standards designed and promoted under the WHO-led GTMP.

Trachoma mapping is expected to be complete by the end of FY16 in all ENVISION-supported countries (only excluding inaccessible areas of Guinea). Under the GTMP partnership, USAID is now recognized as a key funder next to DfID; RTI is similarly included amongst the GTMP Team (alongside ITI, London School of Hygiene and Tropical Medicine [LSHTM], Kilimanjaro Center for Community Ophthalmology [KCCO], Sightsavers, and WHO). As the DfID-funded project comes to a close in December 2015, the only remaining gaps will be areas inaccessible due to insecurity or disease outbreaks (i.e., Ebola). As a final contribution to completion of global trachoma mapping, USAID and ENVISION should consider supporting remaining gaps in areas that become accessible following the end of the DFID-funded GTMP on a case-by-case basis.

MDA

During this reporting period, three countries conducted trachoma MDA with ENVISION support in a total of 55 districts, reaching more than 9 million people in Ethiopia, Tanzania, and Uganda. The mean program coverage with USAID support was noted to be 96%, 82%, and 77% respectively. Trachoma MDA for the other targeted countries in FY15 is planned to take place in the second half of the fiscal year. The table below illustrates mean program coverage for trachoma MDA by fiscal year in ENVISION-supported countries to date.

Table 9: Mean Trachoma MDA program coverage with ENVISION support				
Country	**FY12**	**FY13**	**FY14**	**FY15 (1st half)**
Cameroon	98%	84%	88%	
Ethiopia		95%		96%
Guinea		81%	78%	
Mozambique		93%	71%	
Nepal	70%	82%	83%	
Nigeria		92%		
Tanzania (ENVISION only)	66%	82%		82%
Uganda	69%	85%	66%	77%

It should be noted that while trachoma MDA is warranted in Benin and DRC, trachoma mapping is only recently complete in Benin and is ongoing in DRC. Both countries are planning to carry out Trachoma Action Plan (TAP) workshops in FY15, convening local and international trachoma experts to assist in planning for implementation of the SAFE strategy, including their first applications to the ITI's Trachoma Expert Committee for ZTH. All trachoma-endemic ENVISION-supported countries needing MDA should be targeted in FY16, resources permitting.

During this reporting period, ZTH supply issues were noted due to production delays from Pfizer following an unexpected quality issue during production. It should be noted that Pfizer and ITI remain committed to providing the necessary drug to reach the global trachoma 2020 elimination goal. USAID-supported projects should support MOHs to ensure that scale-up and scale-down projections are provided to ITI as this will allow for the most efficient use of the valuable drug donation and for future forecasting. ENVISION should support MOHs to consolidate in-country stocks of ZTH and redistribute to approved districts as appropriate.

Monitoring impact

TIS are conducted following a minimum number of years of implementation of the SAFE strategy, depending on district baseline prevalence levels. The below table illustrates the number of districts that implemented TIS with ENVISION support, those with available results, and the number of districts having achieved criteria for stopping district-level MDA or stopping MDA. It is important to note that surgical interventions may still be necessary in order to achieve the ultimate intervention goal for trachomatous trichiasis (TT) as needed to achieve elimination. Similarly, facial cleanliness and environmental improvement activities are typically recommended.

Table 10. ENVISION-supported trachoma Impact survey implementation

Country	FY12			FY13			FY14			FY15 (1st half)		
	# Implemented with USAID support	# with results available	# Passed	# Implemented with USAID support	# with results available	# Passed	# Implemented with USAID support	# with results available	# Passed	# Implemented with USAID support	# with results available	# Passed
Cameroon							7	7	5			
Ethiopia				41	41	0						
Nepal	7	7	7	1	1	1	2	2	2			
Nigeria							29	29	29			
Senegal							5	5	5			
Tanzania (ENVISION only)				8	8	6	19	19	12			
Uganda				4	4	4	13	13	12	4	4	4
TOTAL	**7**	**7**	**7**	**54**	**54**	**11**	**75**	**75**	**65**	**4**	**4**	**4**

*For the purposes of this report, "passed" is defined as having achieved criteria for stopping district-level MDA or stopping MDA (whether or not the district needs to continue S, F, and E interventions).

Onchocerciasis

USAID's goal for onchocerciasis is to is eliminate transmission where feasible and control morbidity where not. This includes selected countries in WHO's Africa Region that are aiming for elimination by 2020. Most endemic countries aim to achieve elimination, but in practice few have transitioned from a control to an elimination strategy. As an elimination strategy is generally more extensive in scope and more intensive in approach, availability of funding can constitute an obstacle. In some areas of high transmission, vector-control measures may also be required to achieve elimination. Table 11 illustrates characteristic features of the approach linked to each goal. In practice, a given country's approach may combine features from each column.

Table 11. Control and elimination strategies for onchocerciasis in sub-Saharan Africa

	Control (of morbidity)	**Elimination (of transmission)**
Areas targeted for community treatment/mass drug administration, in any part of district (determined through baseline mapping)	Hyper-endemic areas: -nodule carriers in Rapid epidemiological assessment (REA) sample >39% Meso-endemic areas: -nodules 20-39%, or -skin microfilaria (mf) prevalence >40% of total community population, or -community microfilarial load (CMFL) >5 mf per skin snip (mf/s)	Also include hypo-endemic areas (if any)[3]: -nodules <20%[4], or -mf prevalence 40% or less of total community population, or -CMFL of 5 mf/s or less
Implementation unit for treatment	Focus (can encompass part or whole of one or more districts)	Onchocerciasis only: transmission zone Co-endemic with LF: district
Method for defining implementation unit	Rapid epidemiological mapping of onchocerciasis (REMO) or REA	Delineation mapping
Frequency of treatment	Once a year	Once a year; or Twice a year in areas which i) can reach elimination with stepped-up treatment, ii) are in early stages of intervention and could reduce the overall time-frame for elimination[5]
Epidemiological coverage (goal)	≥65%	≥80%
Surveillance	Phase 1 – Intervention: Epidemiological	Phase 1 – Intervention: a)[6] Epidemiological b)[7] Epidemiological and entomological Phase 2 – Confirmation of elimination: epidemiological and entomological Phase – Post-elimination: epidemiological and entomological

[3] Under a control program, hypo-endemic areas implement clinic-based treatment on a case-by-case basis.
[4] This method was used for baseline mapping in the past; it may no longer be used as nodules may no longer be apparent.
[5] Presently Ethiopia and Uganda are the two ENVISION-supported countries that are adopting twice-a-year treatment strategies.
[6] Assessment of decline in infection levels toward breakpoints.
[7] Confirmation that the breakpoint has been reached and that treatment can be safely stopped.

Contributions to global policies and guidelines

RTI assisted USAID in developing a white paper on strategies for onchocerciasis elimination during Q1-Q2 FY15. The paper focused on the issue of co-endemicity with LF and the approach to be taken when it is determined that treatment for one of the diseases may be stopped in a given area.

ENVISION has also supported structural innovations at country level. Uganda established an expert advisory committee for onchocerciasis elimination, and Ethiopia is in the process of doing so. Both countries' committees use an "**onchocerciasis flag**," a color-coded table showing the status of onchocerciasis in the different foci, as a tool for tracking progress against the disease. In both cases the MOH takes the ultimate decisions on programmatic steps to be followed.

- In **Uganda**, the Uganda Onchocerciasis Elimination Expert Advisory Committee (UOEEAC), established in 2008, serves as an advisory committee to the MOH, providing recommendations regarding onchocerciasis program activities. The UOEEAC meets annually, in August, and is tasked with the following: review programmatic activity reports from each elimination-targeted focus; advise the MOH on focus-specific monitoring and evaluation activities; recommend halting of interventions when appropriate; make any other recommendations on activities needed to reach the national 2020 onchocerciasis-elimination goal. The UOEEAC's key tool is the "**oncho flag**," a color-coded table with epidemiological and entomological data, indicating current status of onchocerciasis in the different foci; the group has recommended updating the flag coloration to reflect a shift toward elimination as the national program's goal. Members include: Tom Unnasch, University of South Florida, as Chair; NTD Control Program National Coordinator; National Onchocerciasis Control Program Manager; Program to Eliminate Lymphatic Filariasis Program Manager; representatives from implementing partners (RTI, Sightsavers, TCC), Mectizan Donation Programme (MDP), Uganda Lions Club and WHO; and international experts from the Bernhard-Nocht Institute and the WHO Onchocerciasis Control Program. RTI funds the meetings, and TCC and RTI/Uganda provide technical assistance.
- In **Ethiopia**, the Ethiopia Onchocerciasis Elimination Expert Advisory Committee is being formed to provide technical advice to the Federal Ministry of Health (FMOH) on onchocerciasis elimination. The committee will be composed of national and international experts and MOH personnel from all endemic regions, and will review annual progress of the national elimination effort and update the "**onchocerciasis flag**," a table color-coded by focus with epidemiological data according to the four stages of elimination (transmission ongoing, transmission suppressed, transmission interrupted, transmission eliminated) depicted in WHO's 2001 and 2013 guidelines. The committee will recommend altering interventions or halting interventions in a particular focus. The FMOH has established draft Ethiopian National Guidelines for Elimination of Onchocerciasis that are in the process of being finalized. ENVISION has a seat on the committee and provides technical/in-context advice as needed.

Contributions to global meetings

During this reporting period, ENVISION participated in the following global and/or regional meetings where onchocerciasis was addressed:

- **African Programme for Onchocerciasis Control (APOC) Joint Action Forum (JAF), Addis Ababa, Ethiopia, December 2014:** This meeting reviewed the accomplishments in onchocerciasis control and elimination achieved with support from APOC and other partners, and discussed possibilities for an entity to succeed APOC once that program ends. Lisa Rotondo, Eric Ottesen, Achille Kabore, and Scott McPherson participated in this meeting.
- **TCC River Blindness Elimination Program Review, Atlanta, February 2015**: attended by Achille Kabore, Katie Crowley, Scott McPherson, and Alexis Serna.
- **WHO AFRO RPRG, Brazzaville, Republic of Congo, February 2015**: attended by Lisa Rotondo and Achille Kabore.

Overview of Onchocerciasis status in ENVISION-supported countries

Over 109 million people – or approximately 91% of the population at risk in Sub-Saharan Africa[8] – are at risk of onchocerciasis in ENVISION-supported countries (Table 12). Over 2 million people in Uganda now live in areas where stopping-MDA criteria have been achieved – in large part due to assistance from USAID for MDA and post-MDA surveillance. Over the next two years, at least one more supported country (Mali) is likely to begin post-treatment surveillance.

Data as of April 2015

Table 12. Onchocerciasis endemicity status by country

Country	# Endemic districts	# Non-Endemic Districts	# Districts where criteria for stopping MDA achieved	# Districts requiring mapping	# Persons at risk	# Persons living in areas where criteria for stopping MDA achieved
Benin[9]	51	26	-	-	6,417,654	-
Cameroon	111	70	-	-	10,935,545	-
DRC	255	202	-	-	35,182,299	-
Ethiopia	179	660	-	-	15,745,016	-
Guinea	24	14	-	-	4,388,654	-
Mali	20	43	-	-	6,098,088	-
Mozambique	-	-	-	-	-	-
Nigeria	106	62	-	-	22,282,150	-
Senegal	8	68	-	-	308,194	-
Tanzania	23	143	-	-	5,538,509	-
Uganda[10]	22	76	14	-	2,776,586	2,096,427
TOTAL	**799**	**1364**	**14**	**0**	**109,672,695**	**2,096,427**

[8] About 120 million people at risk in 2012.
[9] For Benin, "persons at-risk" was determined using the national census projections. This figure is known to be inflated and will be updated once MDA registration has been conducted.
[10] In Uganda, there is one district that has achieved the criteria to stop MDA in some foci only. The population in these areas is included in the # of persons living in areas where criteria for stopping MDA have been achieved, but the district is not yet considered as having achieved the criteria since other foci are still endemic.

All 11 onchocerciasis endemic countries supported by ENVISION have completed their mapping.[11] It should be noted that the mapping requirements noted in Table 2, above, does not include delineation of hypo-endemic areas. Most of the countries have also begun MDA in all endemic districts; the exceptions are Ethiopia, with 84% of endemic districts having started treatment, and Mozambique, which is considered hypo-endemic for the disease and is discussing its treatment strategy in the context of onchocerciasis elimination (Figure 9).

Among the supported countries, Uganda has reached the stopping point for onchocerciasis MDA, in 39% (36) of its endemic districts. Uganda is also conducting post-treatment surveillance in part or all of two-thirds of the districts (24) that have stopped treatment. It should be noted that in a given district, treatment may be ongoing in certain foci while others are under surveillance.

Figure 9. Progress in reaching milestones for onchocerciasis

Data as of April 2015. Figure illustrates the proportion of districts in country having reached milestone.

	Mapping	MDA started	MDA stopped
Uganda	100%	100%	39%
Benin	100%	100%	0%
Cameroon	100%	100%	0%
DRC	100%	100%	0%
Guinea	100%	100%	0%
Mali	100%	100%	0%
Nigeria*	100%	100%	0%
Senegal	100%	100%	0%
Tanzania	100%	100%	0%
Ethiopia	100%	84%	0%
Mozambique**	100%	*	*

**Only in ENVISION-supported states*

***Mozambique is considered to be hypo-endemic for onchocerciasis; the treatment strategy in the context of onchocerciasis elimination is under discussion.*

Mapping

Baseline mapping for onchocerciasis is complete in all ENVISION-supported endemic countries.

In **DRC**, mapping of loiasis with verification of the presence of onchocerciasis is planned in FY15 in seven health zones of Equateur Province in coordination with APOC. The targeted health zones have never been treated with ivermectin and the situation of loiasis is unknown. Specific information on loiasis is also needed to be able to plan for elimination of lymphatic filariasis; CNTD will support mapping of LF in these same health zones.

[11] For DRC, this was reported in the February 2015 WHO/AFRO RPRG meeting.

MDA

The number of districts supported by ENVISION for onchocerciasis MDA is provided in Table 13. Several USAID-supported countries are in the process of scaling up treatment:

- **Ethiopia** treated 37 districts with ENVISION support in 2015.
- **Guinea** plans to treat an additional two districts with ENVISION support in 2015, for a total of six, even as the total number of districts treated with funding from all sources is reduced due to the Ebola epidemic.
- **Mali** plans to treat 18 districts with ENVISION support in 2015, up from two the previous year. This constitutes a return to full scale with ENVISION funding, after the suspension of USAID funding from FY12-FY14.
- **Senegal** is expected to reach all 50 endemic districts in 2015, for the first time, with USAID funding. Treatment was conducted with support from USAID in FY13 (in eight districts) and in FY14 (in a single district), but the data collection tools did not allow for onchocerciasis MDA data to be disaggregated from the LF MDA data. The data collection tools were updated in early FY15 with technical support from RTI, so onchocerciasis data should be available beginning in FY15.

Table 13. Geographic scale up/scale down of onchocerciasis treatment

*includes districts that have been treated at least once

Country	FY12		FY13		FY14		FY15		FY15 (1st half)	
	Districts treated with USAID support	Districts treated with all support	Districts treated with USAID support	Districts treated with all support	Districts treated with USAID support	Districts treated with all support	Districts targeted with USAID support	Districts targeted with all support	Districts treated with USAID support	Districts treated with all support
Benin	0	0	51	51	51	51	51	51	0	0
Cameroon	110	110	111	111	111	111	111	111	0	0
DRC	0	n/a	0	n/a	0	n/a	6	n/a	0	n/a
Ethiopia	0	0	0	0	0	106	37	47	37	47
Guinea	0	24	0	20	4	24	6	15	0	0
Mali	0	18	0	18	2	4	18	18	0	0
Mozambique	0	0	0	0	0	0	0	0	0	0
Nigeria	0	0	106	106	106	106	12	103	0	0
Senegal (PSSC II)[12]	0	0	(see footnote)	(see footnote)	0	0	8	8	0	0
Tanzania[13]	0	0	0	0	0	0	0	23	0	23
Uganda	21	27	23	26	25	25	22	22	20	20
TOTAL	**131**	**179**	**291**	**332**	**299**	**427**	**271**	**398**	**57**	**90**

n/a: Indicates data not available to ENVISION

[12] Senegal treated for oncho through IVM+ALB in FY13 but treatment results were not disaggregated to identify oncho-specific results.

[13] ENVISION-supported districts in the USAID funding columns. Treatment was conducted with USAID support through APOC in other districts of the country.

To be eligible for stopping treatment, endemic districts (or foci, or transmission zones) must have implemented epidemiological surveys to determine remaining levels of infection in a sample of communities to assess the trend toward breakpoint levels, and epidemiological and entomological evaluations to assess residual infection and transmission levels throughout the area to confirm that these are below defined thresholds for elimination (WHO/APOC, Conceptual and Operational Framework of Onchocerciasis Elimination with IVM Treatment, 2010).

Two ENVISION-supported countries are scaling down treatment for onchocerciasis:

- **Nigeria** is targeting three fewer districts in FY15 (these are under review), for a total of 103, with ENVISION now supporting 12 districts compared to the previous 106. The remaining districts are being supported with non-USAID funding.
- **Uganda** is in the process of scaling down treatment in certain districts, even as it intensifies treatment in other parts of the country in an effort to achieve elimination.

Both Mali and Senegal are conducting evaluations to determine the status of onchocerciasis in endemic areas, and may be in a position to scale down treatment over the next couple of years. Continuing treatment for LF, which also involves distribution of IVM, may influence decisions about stopping treatment.

Table 14. ENVISION-supported districts achieving 80% program coverage for onchocerciasis MDA

Country	FY12	FY13	FY14	FY15 (1st half)
Benin		96%	100%	
Cameroon	100%	99%	97%	
DRC				
Ethiopia				97%
Guinea			25%	
Mali			100%	
Mozambique				
Nigeria		93%	95%	
Senegal (PSSC II)				
Tanzania				
Uganda	76%	78%	92%	90%

The majority of districts have achieved sufficient coverage. Program coverage by country is included in Table 14 and epidemiological coverage is included in Table 15. Low coverage was due to the following:

- **Guinea:** in FY14, three of the four districts targeted did not achieve sufficient epidemiological coverage. The MOH believes this is the result of inaccurate population data, which were obtained via a projection of 1996 census data and do not take into account migration and other factors. Preliminary results from a post-MDA coverage survey conducted in March 2014 in Koundara District (one of the districts with low epidemiological coverage) showed program and epidemiological coverage rates of 91% and 80%, respectively, compared to rates of 74% and 59.3% as based on projections from the census data.
- **Nigeria**: in FY13 and FY14, the country conducted community-directed treatment with IVM (CDTI) for onchocerciasis in CDTI foci, which include hyper and meso-endemic areas only. The low epidemiological coverage shown above resulted from the FMOH's decision to count hypo-endemic areas, which were not targeted for treatment, as also being at risk. The MOH is in the process of conducting a situation analysis, to assess whether to adopt a new treatment strategy that may incorporate hypo-endemic areas as well.

Table 15: ENVISION-supported districts achieving epidemiological coverage for onchocerciasis

≥65% epidemiological coverage is required for control

Country	FY12	FY13	FY14	FY15 (1st half)
Benin		96%	100%	
Cameroon	100%	100%	99%	
DRC				
Ethiopia				97%
Guinea			25%	
Mali			100%	
Mozambique				
Nigeria		9%	9%	
Senegal (PSSC II)				
Tanzania				
Uganda	81%	83%	92%	90%

Challenges to implementation of onchocerciasis treatment include: 1) determination of stopping of treatment, for either onchocerciasis or LF, in areas that are co-endemic for both diseases, 2) delineating the (hypo-endemic) areas to which treatment may need to be extended to achieve elimination, and 3) co-endemicity with loiasis.

Cameroon, DRC, and Nigeria all have districts that are known or suspected to be co-endemic with loiasis, resulting in challenges with the safe implementation of onchocerciasis treatment in these areas. In

locations with high levels of loiasis (>30,000 microfilariae/milliliter blood (mf/ml)), treatment with IVM can lead to the development of an encephalopathic syndrome, especially among populations receiving the drug for the first time. For those areas, The Mectizan® Expert Committee and The Technical Consultative Committee (*Recommendations for the treatment of Onchocerciasis with Mectizan® in areas co-endemic for Onchocerciasis and Loiasis, 2004*) have provided recommended treatment strategies.

In **Cameroon**, ENVISION is supporting twice-a-year treatment with ALB (without IVM), per WHO's *Provisional Strategy for Interrupting Lymphatic Filariasis Transmission in Loiasis-Endemic Countries* (2012), in some ten districts that are co-endemic for LF and loiasis – these districts are also endemic for onchocerciasis. Districts that are co-endemic for onchocerciasis and loiasis only are not presently being treated.

Drug supply

In ENVISION-supported countries in Africa, onchocerciasis is treated with IVM, donated by Merck and provided by the Mectizan Donation Programme in response to requests from national MOHs for the country as a whole (this may include both USAID and non-USAID-supported areas). No shortages of drugs or delays in supply have been observed over the life of ENVISION, but it is important to continue to provide technical support and monitor closely to ensure that drug requests are completed, orders are processed, and shipments and reports are made on time.

At present the trend is for increasing IVM needs in ENVISION-supported countries, as more countries are in the process of scaling up or maintaining rather than stopping treatment - and the population of supported countries is growing. In addition, two countries supported by ENVISION, Ethiopia and Uganda, are planning to implement twice-a-year treatment in certain areas, which will contribute to increased need for the drug.

Assessments for onchocerciasis

ENVISION has supported impact assessments for onchocerciasis in six countries to date (Table 16). The results of these assessments have permitted some scale-down in Uganda, as noted above. Results of assessments conducted in Mali and Senegal are pending and will be considered in decisions as to whether treatment can be stopped in selected or all endemic districts in both countries. In practice, as noted above, the decision to stop treatment will take into account any ongoing treatment for LF.

In Mali, two districts that last treated with IVM in 2011, based on good LF TAS results, are in the process of conducting epidemiological and entomological assessments (Phase 1b) for onchocerciasis. The results of onchocerciasis assessments conducted in those two districts will permit decision-making about whether to resume or formally stop treatment for onchocerciasis as well.

Table 16. Onchocerciasis impact surveys implemented with ENVISION support

Country	Survey	FY12	FY13	FY14	FY15 (1st half)
Benin	Epidemiological		10		
Guinea	Epidemiological	28	8	14	
Mali	Epidemiological				4
	Other			4	
Nigeria	Epidemiological			27	
Senegal	Epidemiological			29	
	Entomological			20	
Uganda	Epidemiological		7		
	Other			9	
TOTAL	**Epidemiological**	**28**	**25**	**70**	**4**
	Entomological	**0**	**0**	**20**	**0**
	Other	**0**	**0**	**13**	**0**

Diagnostics & methods

ENVISION supported two countries in incorporating innovative diagnostics and methods into surveys, in FY14. At the time of writing, laboratory analysis of samples is ongoing for both surveys.

- In **Senegal**, ENVISION and the U.S. Centers for Disease Control and Prevention (CDC) jointly supported an onchocerciasis epidemiological impact survey combined with a LF co-endemicity study in Kédougou Region, and ENVISION and TFGH jointly supported an onchocerciasis epidemiological impact survey in Kolda and Tambacounda Regions. Both sets of surveys incorporated a serology component, analyzing dry blood spots for antibody reactions to Ov16 (onchocerciasis) and Wb123 (LF) antigens, an indicator of exposure to each disease. The surveys in Kolda and Tambacounda Regions were the first use of web-enabled Android smartphones and the TFGH LINKS mobile data collection and warehousing tool for an onchocerciasis survey in any country; this enabled the registration of survey locations through the built-in global positioning system (GPS) and linking of multiple questionnaires (participant identity and history, questions about symptoms and physical examination, skin snip and microscopy results, and serology) through scanning of unique quick response (QR) codes.
- In **DRC**, LF baseline sentinel sites were conducted in Bandundu and Maniema Provinces incorporating a similar serology component, pairing analysis of dry blood spots for Wb123 and Ov16. The sentinel sites also incorporated multiplex point-of-care tests for the same two antigens, allowing for a direct comparison of the specificity and sensitivity of the laboratory and point-of-care diagnostic methods. The multiplex tests had the distinct advantages of not requiring a cold chain, and permitting immediate testing of samples on location instead of shipping to a laboratory in a major city in country or abroad.

Surveillance

Uganda is presently monitoring onchocerciasis vectors with ENVISION support. This includes surveillance to determine infection and polymerase chain reaction (PCR) test preparations to determine vector infectivity, with some districts implementing monthly entomological surveys. The latter include fly-catching and crab-trapping. Prevalence of onchocercal nodules and microfiladermia, via skin-skips, are also monitored.

Schistosomiasis

USAID's goal is for SCH control in USAID-supported countries. ENVISION promotes co-implementation of SCH MDA with other drug packages and in particular the co-administration of praziquantel (PZQ) with ALB for STH to efficiently reach targeted populations in SCH/STH co-endemic districts and encourages close collaboration and synergies with water, sanitation and hygiene (WASH) projects implementing in ENVISION-supported countries.

Contributions to global policy dialogue

ENVISION staff attended the pre-launch meeting of the Global Schistosomiasis Alliance (GSA) in Addis Ababa in December 2014 during the JAF, taking the opportunity to highlight USAID for SCH programs in terms of mapping, PZQ donation and MDA support since 2007. It is anticipated that the new alliance would provide a high level collaboration platform through the organization of regular fora and meetings gathering key stakeholders and country program managers. The GSA is an opportunity for effective coordination of various NGOs and institutions working to control and eliminate SCH. It is expected that the GSA will work closely with WHO and pharmaceutical companies to advocate for scaling up PZQ donations, for the provision of new diagnostic tools and for more financial support to the endemic countries.

Contributions to global guidelines and policies

At the WHO M&E working group in Geneva in February 2015, ENVISION staff participated in the technical discussions which led to the WHO recommendation for the use of Cathodic Circulating Antigen (CCA) for mapping and other assessments of SCH. The CCA is now a valuable alternative to the Kato Katz kit since it is more sensitive for the detection of intestinal SCH. Also, the new recommended tool comes at the time where a shortage of Kato Katz kit has been reported worldwide.

ENVISION staff (Lisa Rotondo and Achille Kabore) also attended the second regional program review meeting of the WHO AFRO RPRG in Brazzaville in February 2015. During the working group discussions, the team provided inputs on country specific diseases mapping including SCH. ENVISION staff also reviewed countries applications for PZQ in the AFRO region.

Overview of SCH status in ENVISION-supported countries

Across ENVISION-supported countries, 1,583 districts, inhabited by over 240 million people, are endemic for SCH (Table 17). Additional mapping is still needed in 236 districts to complete the epidemiological map for SCH in DRC, Ethiopia and Mali.

Disease status as of April, 2015

Table 17: Schistosomiasis endemicity status by country

Country	# Endemic districts	# Non-Endemic Districts	# Districts requiring mapping	# Persons at risk
Benin	76	1	-	10,622,441
Cameroon	132	49	-	18,053,983
DRC	372	113	33	58,738,362
Ethiopia	299	341	199	31,705,839
Guinea	34	4	-	12,105,177
Indonesia	2	512	-	40,500
Mali	59	-	4	17,735,998
Mozambique	142	-	-	25,727,911
Nigeria	168	-	-	4,029,142
Senegal	60	16	-	9,284,620
Tanzania	166	-	-	47,312,622
Uganda*	73	39	-	8,361,283
TOTAL	**1583**	**563**	**236**	**243,717,878**

*Population at-risk for SCH in one district in Uganda is currently unknown as MDA has not yet begun in that district.

Ten of the 12 endemic countries supported by ENVISION have completed their SCH mapping. Most of the countries are scaling up SCH MDA, with the exception of Indonesia and Uganda that have begun MDA in all endemic districts (Figure 10). SCH MDA has not started in several countries (DRC, Ethiopia and Mali) due to the fact that mapping was still ongoing or planned. Benin has recently completed mapping and is planning to launch MDA to cover all endemic communes. In most of the ENVISION-supported local government areas (LGAs or district equivalents) in Nigeria, SCH treatment has not started; plans have been developed to include SCH MDA as part of the MDA package in those LGAs. Implementation of the SCH program in Senegal (through PSSC II funding) was inconsistent with the prevalence of the disease and treatment rounds were not regular in some low endemic districts. Following recent technical meetings supported by ENVISION, Senegal will change the MDA strategy to get 100% geographic coverage starting in FY16. Guinea has been confronted with successive issues that hampered the roll-out of SCH MDA: the political unrest following the elections in FY13 and the Ebola epidemic in FY14 and FY15. Fear that SAEs due to PZQ could be mistaken for Ebola symptoms was the main concern that prevented the national program from implementing SCH MDA. It is anticipated that SCH MDA will be feasible once the Ebola epidemic is controlled.

Figure 10. Progress in reaching milestones for schistosomiasis
Data as of April 2015. Figure illustrates the proportion of districts in country having reached milestone.

	Mapping	MDA started	MDA stopped
Indonesia	100%	100%	0%
Uganda	100%	100%	0%
Mozambique	100%	99%	0%
Tanzania	100%	96%	0%
Mali*	94%	93%	0%
Senegal	100%	92%	0%
Cameroon*	100%	61%	0%
Guinea	100%	50%	0%
Nigeria**	100%	42%	0%
Benin	100%	28%	0%
DRC	94%	0%	0%
Ethiopia	76%	0%	0%

**Cameroon and Mali: not 100% geographic coverage in low endemicity areas*
***Only in ENVISION-supported states*

Mapping
Mapping for SCH is complete for the ENVISION supported countries except for Mali[14], DRC and Ethiopia (Figure 10). Disease-specific assessments (sentinel sites assessments) were conducted in 48 districts during FY14 and in 14 districts for the first half of FY15. In the SCH sentinel survey in DRC, the CCA has been used alongside the Kato Katz method to assess the performance of the CCA in low endemic areas. The study will also provide data to determine the cut-offs in terms of threshold for SCH MDA.

MDA
Most SCH MDA are implemented to coincide with the closure of the school year. As a result, all MDA for SCH, with the exception of some districts treated in Uganda during Q1-Q2, will take place in the 2nd half of the year.

Table 18 provides a historical perspective of ENVISION support for MDA since the start of the project. Technical, operational and financial support to the endemic countries have been consistent since the beginning of ENVISION. ENVISION staff provide technical assistance to countries to host technical meetings to discuss SCH programmatic issues including frequency of treatments and impact assessments. Mali, Senegal and Cameroon have consequently aligned their MDA strategies with WHO guidelines. Also, ENVISION continues to procure PZQ for countries where the PZQ donation is not available.

[14] Areas of Mali in the Kidal region requiring SCH mapping cannot be accessed safely at this time.

Table 18. Number of persons targeted and treated for SCH with ENVISION support

Country	FY12		FY13		FY14		FY15	
	# Persons Targeted	# Persons Treated	# Persons Targeted	# Persons Treated	# Persons Targeted	# Persons Treated	# Persons Targeted	# Persons Treated (1st half)
Benin	-	-	226,196	126,555	728,568	449,991	662,967	-
Cameroon	2,873,328	2,329,969	3,035,861	970,391	3,163,709	2,407,351	3,148,126	-
DRC	-	-	-	-	-	-	263,550	-
Ethiopia	-	-	-	-	-	-	-	-
Guinea	758,220	691,654	4,056,224	-	3,719,598	-	-	-
Mali	-	-	-	-	1,338,037	553,400	4,151,898	-
Nigeria	-	-	1,885,691	1,679,170	3,087,871	1,946,908	1,029,333	-
Senegal (PSSC II)	-	-	2,483,306	1,857,795	2,182,757	1,793,566	1,444,222	-
Tanzania (ENVISION only)	1,118,279	510,182	2,689,702	1,396,820	529,281	496,495	3,441,344	-
Uganda	2,403,586	1,547,456	1,820,743	885,930	3,631,006	2,740,796	4,145,116	664,816
TOTAL	**7,153,413**	**5,079,261**	**16,197,723**	**6,916,661**	**18,380,827**	**10,388,507**	**18,286,556**	**664,816**

Across many ENVISION supported countries, MDA coverage for SCH is of concern. ENVISION is working with field staff and in-country partners to investigate and address this, where possible. In many cases there are difficulties in accurately determining the eligible populations targeted for SCH. Using a percentage of the total population to estimate a target population of school age children (SAC) may not accurately reflect the focal nature of the disease or eligible population. In fact, various factors may be contributing to low coverage, including:

1) Unknown percentage of the SAC in many targeted countries and consequently the use of inaccurate denominator estimates;
2) Difficulty reaching the SAC who are not enrolled in schools (e.g., Benin);
3) Inadequate period for school-based distribution, and;
4) The timeline of MDA (i.e., skipping years in districts with low prevalence).

The SCH drug distribution is school based and depends on a strong coordination with the education system in addition to the health system. When NTD activities are delayed, such as due to delayed FOG approval in Cameroon in FY13, the MDA implementation timeline may no longer coincide with the school calendar, resulting in competing priorities as teachers focus on exams and/or implementing when school attendance may be low (e.g., Benin in FY13).

In Nigeria, low coverage in FY13 in USAID supported states is likely due to security challenges. Other security challenges might still be a barrier for MDA in general in northern parts of Mali, Cameroon and Nigeria.

In FY14, four out of the 7 countries where SCH treatments were conducted reached 80% program coverage. Program coverage has significantly improved in Tanzania, progressing from 49% and 54%, respectively, in FY12 and FY13 to 96% in FY14. Uganda has also reached good program coverage in FY14 (Table 19). Shortage of PZQ was reported in Tanzania and in Uganda for the FY15 campaign but drugs are now being shipped to these two countries to fill the gaps. More efforts are needed in Benin, Mali and Nigeria to scale up SCH interventions and to reach most of the SAC targeted for SCH MDA.

Table 19: Mean program coverage for SCH in ENVISION-supported countries

Country	FY12	FY13	FY14	FY15 (1st half)
Benin		57%	62%	
Cameroon	83%	76%	82%	
Guinea	91%			
Mali			66%	
Nigeria		87%	76%	
Senegal (PSSC II)		84%	85%	
Tanzania (ENVISION only)	49%	54%	96%	
Uganda	73%	73%	85%	66%

Benin and Tanzania are implementing post-MDA coverage surveys to verify reported coverage, and thereby should have a better understanding of the accuracy of the denominator. Tanzania is also changing the SAC population estimates to be more in line with the district-specific estimates. In Benin pre-registration of SAC who are in schools is being explored, however the list of SAC who do not attend school is a challenge to address.

Drug supply

A shortage of PZQ was reported in Tanzania (FY15) and in Uganda (FY14 and FY15) and in DRC (FY15). Unused drugs from Guinea (where MDA was postponed due to the Ebola epidemic) were shipped to Ethiopia and Tanzania to resolve the issue. Procurement of PZQ for the ENVISION supported countries might be an issue in the coming fiscal year if the global production of the drug cannot keep up with the demand.

Soil transmitted helminths

USAID's goal is to achieve control of soil-transmitted helminths (*Ascaris lumbricoides* [roundworm] *Trichuris trichiura* [whipworm], and hookworms) in USAID-supported countries. ENVISION's contributions to this goal are guided by WHO recommendations[15] [16] which set a goal of achieving 75% coverage of mass chemotherapy for at-risk preschool (2-4 years) and school-aged (5–14 years) populations by 2020 through school or community-based MDA. An expected outcome of scaling-up MDA for STH is that women of child-bearing age and high-risk adults will also be more likely to receive treatment over time.

Distribution of ALB and/or mebendazole (MBD) is supported by ENVISION in 11 countries (i.e., Benin, Cameroon, DRC, Guinea, Haiti, Indonesia, Mali, Nepal, Nigeria, Tanzania, Uganda). Different treatment strategies are used to determine the number of people targeted and treated, based on baseline prevalence (Table 20). ENVISION support for STH control is used primarily to support 1 round of STH treatment (ALB or MBD) in a district, typically through co-administration with IVM, diethylcarbamazine (DEC), and/or PZQ, and primarily targeting SAC. If district prevalence is ≥50%, government-supported school health programs or other partner initiatives are expected to support a second round of treatment. In FY15, ENVISION began to support 2 rounds of STH treatment in certain districts where indicated, including in Haiti (Grand Anse) and Tanzania. ENVISION support for school-based treatment throughout Cameroon has continued this fiscal year.

Table 20. Recommended control strategies for STH infections in SAC

Treatment Category	Baseline prevalence of any STH infection among school-aged children	Action to be taken	
2x per year	≥50% (high risk)	Treat all school-age children (enrolled and not enrolled) twice each year	Also treat: • preschool children; • women of childbearing age, including pregnant women in the 2nd and 3rd trimesters and lactating women; • adults at high risk in certain occupations (e.g. tea-pickers and miners)
1x per year	≥20% and <50% (low risk)	Treat all school-age children (enrolled and not enrolled) once each year	Also treat: • preschool children; • women of childbearing age, including pregnant women in the 2nd and 3rd trimesters and lactating women; • adults at high risk in certain occupations (e.g. tea-pickers and miners)
MDA not recommended	< 20%	Affected individuals should be treated on a case-by-case basis.	

Note: ALB 200 mg for children aged 12–23 months, 400 mg for children aged 2–5 years, MBD 500 mg for children aged ≥1 year where ALB is not provided.

[15] Eliminating soil-transmitted helminthiases as a public health problem in children: Progress report 2001–2010 and strategic plan 2011–2020: http://whqlibdoc.who.int/publications/2012/9789241503129_eng.pdf?ua=1

[16] WHA54.19 Schistosomiasis and soil-transmitted helminth infections http://www.who.int/neglected_diseases/mediacentre/WHA_54.19_Eng.pdf

While recent modeling suggests that local elimination of STH is possible through an inter-sectoral approach, this only becomes feasible in countries that have a low intensity of transmission, strong health systems, available delivery platforms, supportive household environments, and in country funding.[17] Arguably, these five elements are not present in ENVISION supported countries; therefore, annual or semi-annual treatment for STH for pre-SAC and SAC would be recommended in districts mapped to have any STH prevalence ≥20%.

In certain circumstances, national NTD control programs have stopped supporting a 2nd round treatment in districts with STH prevalence ≥50% at baseline, or have stopped direct support of MDA for STH in districts all together, where 1) STH has become the only NTD targeted for MDA, 2) recent sentinel sites survey results have indicated STH prevalence < 20%, and/or 3) de-worming activities have become integrated into school health programs, or other health service delivery models (e.g., immunizations; nutritional outreach) that are not coordinated by the national NTD control program.

Overview of STH status in ENVISION-supported countries

Among the 11 ENVISION countries that targeted STH in FY14, many have not reached 100% geographical coverage; coverage varied depending on the level of STH prevalence in districts, baseline mapping gaps, opportunities to integrate de-worming as part of other drug distributions, whether drug distributions were school or community based, and whether the focus of interventions by the program included all districts with STH prevalence ≥20% STH. Table 21 shows the distribution of STH endemic districts by prevalence level, and the provisional number of districts targeted and treated for STH in FY15 (Q1-Q2) . Districts not targeted by USAID in Table 21 may be targeted by another partner and, therefore, do not necessarily constitute a gap in STH coverage.

As Figure 11 reaffirms, the majority of ENVISION countries have at least started MDA for STH in 100% of the endemic districts, with or without ENVISION support. All ENVISION supported countries have completed STH mapping, with the exception of DRC and Ethiopia. While most have also reached 100% geographic coverage for MDA, several countries are still working to reach national scale.

As LF, onchocerciasis, and trachoma endemic districts transition into a post MDA phase in the coming years, a greater number of districts designated as STH-only is expected.

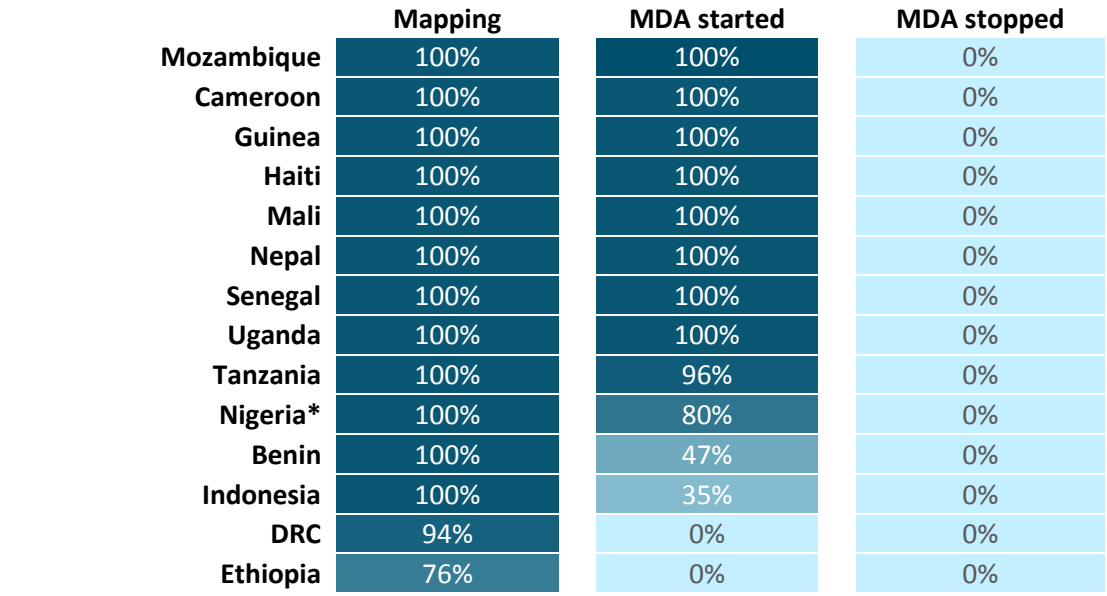
[17] Simon J Brooker, Birgit Nikolay, Dina Balabanova, Rachel L Pullan (2015) Global feasibility assessment of interrupting the transmission of soil-transmitted helminths: a statistical modelling study. *Lancet Infect Dis* in press. http://www.thelancet.com/pdfs/journals/laninf/PIIS1473-3099(15)70042-3.pdf

Table 21. Number of STH endemic districts (≥20%) targeted by ENVISION in FY15								
Country	**# STH endemic districts (≥20%)**	**# Districts requiring mapping**	**≥50%**			**≥20% and <50%**		
			# Districts	**USAID Targeted**	**USAID Treated (1st half)**	**# Districts**	**USAID Targeted**	**USAID Treated (1st half)**
Benin	45		2	1		43	24	
Cameroon	78		29	29		49	49	
DRC	278	33	144	3		134	3	
Guinea	17		8	-		9	4	
Haiti	140		12	12	12	128	44	
Indonesia	514					514	50	
Mali	63		63	63				
Nepal	75		70	16	9	5	2	
Nigeria[1]	133		37	37		96	83	
Senegal	76					76	76	
Tanzania	166		166	80				
Uganda	112		112	53	20			
Ethiopia	312	199						
Mozambique	134							
TOTAL	**2143**	**232**	**643**	**294**	**41**	**1054**	**335**	**0**

[1]Only includes 9 States targeted by ENVISION

Figure 11. Progress in reaching milestones for STH

Data as of April 2015. Figure illustrates the proportion of districts in country having reached milestone.



**Only in ENVISION-supported states*

Mapping

Ongoing discussions with MOH and in-country partners in DRC and Ethiopia during FY16 work planning will determine whether remaining STH mapping gaps can be filled in the coming year and to what extent ENVISION can assist.

MDA

ENVISION is achieving at least 75% of SAC for STH in approximately 2/3 of districts the project supports. Some countries have performed relatively well overall, including Guinea, Haiti, and Indonesia (which has improved substantially since FY12). Other countries, such as Benin, require additional effort to sufficiently reach their SAC population (Table 22). STH treatment coverage is slightly higher than SCH coverage rates which are primarily school-based; this is largely because ALB treatment is distributed as part of LF treatment, which is community based, and therefore more likely to reach children not attending school.

Table 22: Mean epidemiological coverage of SAC with ENVISION support

Country	FY12	FY13	FY14	FY15 (1st half)
Benin[1]	-	57%	62%	
Cameroon	91%	97%	109%	
DRC	-	-	-	
Ethiopia	-	-	-	-
Guinea[2]	91%	-	97%	
Haiti	90%	91%	90%	177%
Indonesia	86%	115%	103%	
Mali	-	-	84%	
Mozambique	-	-	-	-
Nepal	68%	76%	74%	72%
Nigeria	-	91%	85%	
Senegal (PSSC II)	-	88%	95%	
Tanzania (ENVISION only)	59%	70%	100%	70%
Uganda[3]	79%	97%	85%	91%

[1]Four districts were treated in Benin in FY14 that had not yet been mapped, based on MOH decision to treat similar ecologic areas. The total SAC population is assumed as the population at-risk and targeted, consistent with districts known to be endemic. FY15 mapping found all 4 districts endemic.
[2]Guinea was only able to treat one district in FY14 due to ongoing instability related to Ebola Outbreak
[3]Two districts in Uganda in 2014 were not disaggregated by age. Epi coverage calculations for 2014 include data only for the 50 districts with age disaggregated data. In 2012 data was not disaggregated by age in 3 districts, so epi coverage calculations include data for only 53 of 56 districts treated.

During the first half of FY15, 4.1 million SAC were reached for STH primarily through the treatment of LF endemic areas with IVM and ALB. In certain circumstances SAC were treated with ALB in onchocerciasis endemic areas by including ALB with IVM distributions, as well as in schools targeted for PZQ distributions for SCH and where ALB or MBD was also provided for STH. In a few districts, reports indicate that SAC were only treated with ALB or MBD. Over the last 4 years ENVISION has been targeting on average approximately 29,417,242 SAC per year for STH (Table 23).

Table 23. Number of SAC targeted and treated with ENVISION support

Country	FY12		FY13		FY14		FY15	
	# SAC Targeted	# SAC Treated	# SAC Targeted	# SAC Treated	# SAC Targeted	# SAC Treated	# SAC Targeted	# SAC Treated (1st half)
Benin	-	-	226,196	126,555	728,568	449,991	831,141	-
Cameroon	5,418,289	4,822,579	5,718,390	5,420,119	7,431,376	5,947,072	6,048,213	-
DRC	-	-	-	-	-	-	263,550	-
Ethiopia	-	-	-	-	-	-	-	-
Guinea	758,220	691,654	834,315	-	1,463,322	222,148	268,989	-
Haiti	1,358,786	1,212,093	1,372,302	1,249,676	1,475,028	1,276,258	826,138	195,363
Indonesia	1,426,479	1,413,134	2,816,042	2,425,385	2,823,982	2,444,582	2,618,559	-
Mali	4,043,563	-	-	-	560,280	372,882	2,596,418	-
Mozambique	-	-	-	-	-	-	-	-
Nepal	5,484,800	3,711,847	5,613,087	4,451,296	4,077,509	3,019,859	2,055,346	581,034
Nigeria	-	-	763,655	696,878	7,709,297	5,064,618	7,507,780	-
Senegal (PSSC II)	-	-	3,913,741	2,652,558	4,057,362	3,741,556	4,145,109	-
Tanzania (ENVISION only)	3,621,596	2,112,540	3,352,868	2,330,822	3,020,742	2,443,709	4,038,187	1,754,246
Uganda	4,637,116	2,937,797	1,909,898	1,943,940	4,860,936	3,691,570	4,525,952	1,564,334
TOTAL	**26,748,849**	**16,901,644**	**26,520,494**	**21,297,229**	**38,208,402**	**28,674,245**	**35,725,382**	**4,094,977**
	63.2%		**80.3%**		**75.1%**			

Sentinel site and Spot check surveys

Ultimately, the aim of the global effort to control STH is focused on morbidity control, where periodic treatment of at-risk populations is expected to reduce the intensity of infection and protect infected individuals from morbidity. Assessing STH morbidity is not part of the WHO guidelines for M&E, consequently, data on morbidity associated with STH is currently not collected by the ENVISION project.

Currently the project monitors and evaluates the impact of multiple rounds of anti-helminthic drugs on reducing the intensity of infection. STH sentinel site surveys supported by ENVISION are frequently

conducted as part of SCH survey work, although STH surveys have also been integrated into other DSAs. In general, one sentinel site is selected for every 200,000–300,000 children targeted and 50 children are examined in each selected school. The Kato–Katz technique is used to examine a known amount of fecal material through microscopy. Egg counts provide an indirect measure of burden and intensity of infection.

In FY15, ENVISION is supporting 62 districts with STH sentinel site or STH evaluations in Tanzania, Uganda, Mali, and DRC. Among the districts to have completed surveys in the first half of 2015, results from 4 districts in Mali are still pending and results from 10 districts in Uganda suggest that in 5 districts the frequency of MDA can be decreased, in 4 districts MDA should continue at the same frequency, and in 1 district the program has recommended stopping STH MDA and to start surveillance (Table 24).

Table 24. FY15 districts targeted for STH surveys

Country	# Districts Targeted	# District surveys completed (1st half)	Recommendations
DRC	6		
Mali	20	4	Results pending
Tanzania	25		
Uganda	17	10	Decrease frequency of MDA (5 districts) Continue MDA same frequency (4 districts) Stop MDA, start surveillance (1 district)

Other assessments and evaluations

In the first half of FY15, the project carried out several activities to ensure effective M&E and data management of USAID-supported NTD programs. RTI worked to strengthen the capacity of countries and partners to implement M&E activities, including DSAs, DQAs, and post-MDA coverage surveys.

Data Quality Assessments

Since the DQA tool and guidelines were released in FY13, ENVISION has supported field-testing in six countries: Cameroon, Indonesia, Nigeria, Senegal, Tanzania, and Uganda. The data management systems were assessed and reported data verified through recounting at each level of the reporting system, including the national level, regional/province/state, district, health center/health facility/health-post/sub-county, and village/community/hamlet. Indicators are selected based on national program concerns about data accuracy, and included total population, eligible population targeted with a specific drug package, population treated with a specific drug package, number of tablets used, and number of refusals.

Findings: Across the countries, approximately 50% of reported data were verified through recounting, and data timeliness was noted as a major issue. Basic data systems exist, but are not always followed. It was observed in multiple countries that the data collection tools did not sufficiently capture the indicators, and that data management processes need to be strengthened. Training needs to have a greater emphasis on data management and reporting, while supportive supervision during data collecting and reporting should be strengthened.

Action taken: As a result of these DQA exercises, countries have revised their data collection tools to better capture data, including age-disaggregated results, and strengthened training to include a larger focus on data management. For example, Indonesia, based on the results of the DQA, added one additional day to train health center staff in the use of the updated reporting forms, and Cameroon is adding practical sessions on data management into the training curriculum in FY15. Further efforts across all countries are necessary and underway to improve the timeliness of data submission.

Post-MDA Coverage Surveys

Post-MDA coverage surveys are used to validate the reported coverage. They also offer the opportunity to solicit information about the knowledge, attitudes, and practices (KAP) of community members around NTDs, including understanding their causes; how the MDA was carried out, such as whether the drug distributor actually administered the medication; and reasons for participating or not participating in the interventions. To date, ENVISION has supported post-MDA coverage surveys in Benin, Cameroon, Guinea, Haiti, Indonesia, Nepal, Tanzania and Uganda.

Findings: Findings have varied by country; perhaps surprisingly, surveyed coverage was not always less than reported coverage. Survey results highlighted the need for revised social mobilization strategies, particularly in urban settings, to more effectively mobilize target populations; the necessity of implementing directly observed treatment; and the value of strengthened training on data management and supervision during data collection.

Action to be taken: During the second half of the fiscal year, RTI will carry out a more in-depth analysis of coverage survey results across multiple countries, as well as contribute to the development of a WHO position statement on post-MDA coverage surveys. In addition, post-MDA coverage surveys are planned in a number of countries, including Ethiopia, Nigeria, and Senegal.

Independent Monitoring

Independent monitoring has been used during and immediately after MDA to improve the understanding of any populations that are either not being reached by drug distributors or are choosing not to participate in MDA, so that real-time decisions during the MDA can be made to improve coverage. During the first half of FY15, Nepal carried out in independent monitoring with a focus on low DEC + ALB coverage and poor and migrant communities in and around Kathmandu.

Findings: Overall, 35 sites from 39 low coverage urban wards/municipalities were monitored over three in-process days and again over three end-process days. Daily in-process monitoring and debrief sessions allowed the national program, with support from ENVISION, to gain a better understanding of where coverage was low, including specific wards and population groups, so targeted mop-up activities could be conducted. The end-process monitoring showed improvement in coverage compared to the 2014 MDA: the number of wards with extremely low coverage (<30%) dropped from 21 to only 1, and the number of better performing wards (≥50% coverage) rose from 2 to 7.

An overall conclusion from the information gathered from independent monitoring is that radio broadcasts and other channels for awareness-raising and social mobilization should be more interactive. Allowing the public to voice their concerns and misconceptions enables the national program to tailor messages that address those in a language understood by the public, which will increase confidence in the LF MDA program. As a result of the activity, the national program had an improved understanding about the areas where concerted efforts should be undertaken to improve coverage, as well as identified strategies to improve coverage among specific population groups.

ENVISION GLOBAL LEADERSHIP

Participation in Global Forums

Policy dialogue takes place at many different levels, from global to regional, national and local levels. At each of these levels ENVISION plays an active role bringing its real-world experience to bear on policy decisions. USAID's ENVISION project is globally the largest single platform of NTD program implementation, and as such, its experience is called upon first to formulate and then to evaluate global guidelines; to define best practices; to set control and elimination strategies; and to determine the challenges remaining to be addressed. ENVISION staff work closely with USAID to provide technical leadership to WHO, the donor community, and the MOHs by actively participating in global and national forums as well as through developing specific program tools and strategic approaches.

Since operational NTD programs are comparatively new public health ventures, as national programs mature, countries repeatedly face new challenges that have never before been met. M&E of program activities become increasingly important, and the tools to track progress or identify program weak spots must be developed or refined and improved to be able to inform policy development. Then, when the decision to stop components of programs after they have achieved success must be made; national programs seek guidance from global policy that can only be developed on the basis of available experience. For all these reasons, USAID and ENVISION have become essential collaborators with WHO in designing, effecting and trouble-shooting the NTD programs globally, first at meetings and then on-the-ground in-country.

A list of global meetings that ENVISION participated in is outlined in Table 25. ENVISION staff contributions to NTD technical working groups is summarized in Table 26.

Table 25. Global technical working groups with ENVISION participation

Working group	ENVISION Objective	What investment/contribution will RTI make to address this objective(s)?	What outcome(s) will be attributable to RTI/ENVISION?
		WHO	
WHO Working Group on Drug Access	Coordinate PZQ procurement with other partners	RTI presents its PZQ distribution plan (by country, year, and quantity of drugs). RTI/ENVISION influences other partners to demonstrate same level of transparency, and leads coordinated examination of plans for areas of duplication.	Globally drugs are distributed where needed and duplication among partners is avoided
WHO Regional Program Review Groups (AFRO, SEARO, WPRO, AMRO); APOC JAF	Support ENVISION countries in reporting to technical oversight groups and participate in regional decision-making affecting those countries.	RTI identifies donor support and yearly expectations for NTD programs of ENVISION countries	Decisions of RPRG will be informed so as to promote harmonization between donor resources available (funds and assistance) and country and regional expectations.
WHO Working Group on Capacity Building	Organize global capacity building initiative; identify most effective role for ENVISION activities integrated with the global strategic plan	RTI will take the lead in developing specific training modules and will support the roll out in ENVISION countries and sometimes regionally	Global capacity strengthening initiatives will benefit from both the experience of the ENVISION team and from its resources (technical and financial) that help translate this experience into real training activities.
WHO Working Group on M&E/Impact/data management	Optimize data collection tools and strategies for ENVISION countries in line with WHO norms	RTI will contribute its exceptional M&E and data management expertise to developing WHO's global norms and will enhance its reputation as a global leader in M&E	By leading the development of Integrated NTD database and M&E tools, RTI ensures that the experience of all USAID-supported countries is utilized in creating the most effective global norms and tools available
WHO/NTD-STAG M&E Working Group	Resolve uncertainties in mapping, new diagnostics, surveillance strategies and criteria for elimination of LF	RTI will invest its experience, expertise and national program linkages to help develop the appropriate norms and algorithms for program implementation	By providing its actual programmatic experiences, RTI will ensure development of norms that reflect USAID concerns and identify OR opportunities to be pursued

Working group	ENVISION Objective	What investment/contribution will RTI make to address this objective(s)?	What outcome(s) will be attributable to RTI/ENVISION?
		PHARMA	
Expert Committees of major drug donation programs (i.e., Mectizan/ ALB, Zithromax and MBD) and meetings of the pharma coordination group (PDCI)	Maintain close relations with drug donation programs; ensure coordination between drug donations to ENVISION countries, availability of adequate support for implementation and consistency in the management of SAEs	RTI reports on the contributions of USAID implementation funds for supporting the needs of ENVISION countries to deliver the donated drugs during MDA; RTI coordinates the development and dissemination of tools and training materials on SAEs	Effective harmonization between drug donations and implementation resources for the ENVISION countries, and creation of a model for management of SAEs in all NTD programs.
		NGDOs	
Annual Meetings for Uniting to Combat NTDs, GAELF, GET2020, NTD NGDO Network, TCC, ICTC	Engage with the global community of NTD partners and coordinate implementation activities with NGDOs	RTI will take leadership roles in the NGDO umbrella organization (NTD NGDO Network (NNN)), LF NGDO Network, and ICTC, as well as influential roles in all other NTD-specific NGDO groups	RTI will share experience from USAID-supported countries with all other NTD NGDOs and will significantly shape the formulation of 'best practices' for NGDO support to national NTD programs.
		OPERATIONAL RESEARCH	
Operational Research programs funded by the BMGF: 'Filling the Gaps', DOLF, SCORE, Trachoma; Coalition for Operational Research in NTDs (COR-NTD) Global Development Alliance (GDA)	Link needs of implementation programs to research community; provide essential collaboration opportunities for operational researchers	1) ENVISION's identification of needed implementation research will be shared with the broader community; 2) ENVISION can facilitate the necessary linkages between researchers and actual NTD programs that can become involved in the research.	1) The most important operational research needs for NTD program success will be identified; 2) The essential link between those with the research need and those who can help meet this need will be established.

AFRO: Africa Regional Office, APOC: African Programme for Onchocerciasis Control, AMRO: Regional Office for the Americas, CWW: Children without Worms, DOLF: Death to Onchocerciasis and Lymphatic Filariasis GAELF: Global Alliance to Eliminate Lymphatic Filariasis, GET2020: Alliance for the Global Elimination of Blinding Trachoma by 2020, ICTC: International Coalition for Trachoma Control, JAF: Joint Action Forum, PDCI: Partnership for Disease Control Initiatives, SEARO: Southeast Asia Regional Office, SCORE: Schistosomiasis Consortium for Operational Research and Evaluation, WPRO: Western Pacific Regional Office

Table 26. ENVISION staff contributions to global working groups	
ENVISION Staff Member	**Name of Working Group or Sub-Working Group**
Achille Kabore, Eric Ottesen	WHO AFRO Coordinated Mapping Group
Amy Doherty, Maggie Baker	WHO Temporary Advisor on WHO's Working Group on Capacity Strengthening
Amy Doherty	WHO Working Group on Drug Supply
Eric Ottesen	WHO WPRO Regional Program Review Group
	Bill and Melinda Gates Foundation STH External Advisory Group
	Coalition for Operational Research on the NTDs, TFGH
Jennifer Leopold	Co-Chair ICTC Communications and Advocacy Working Group
Katie Crowley	Co-Chair ICTC MDA practices and capacity strengthening working group
Katie Zoerhoff, Eric Ottesen	WHO Working Group on M&E of PC
Lisa Rotondo	NTD NGDO Network (NNN) Vice chair
	Uniting to Combat NTDs Stakeholder Working Group, under NNN Vice chair role
	ICTC Strategic Working Group
	GTMP Advisory Committee
Molly Brady	WHO LF MMDP core group
	LF NDGO Network: Appointed as Vice-Chair in September 2014 NNN Executive Committee
	WHO M&E Subgroup on Disease-Specific Indicators (These are ad-hoc groups as appointed by WHO or the Subgroup Chair)
	WHO Core Working Group on LF MMDP
Philip Downs	STH Coalition
	LF Network – WASH: Represented LF network at WASH working group meeting at NNN
Sharone Backers	NNN WASH Working Group
Achille Kabore	Global Schistosomiasis Alliance – Implementation Working Group
Alex Pavluck	Co-chair of the ICTC eHealth working group GTMP Advisory Committee

Key Regional Policy Meeting Participation

WHO African Region NTD Regional Programme Review Group 2nd Preventive Chemotherapy meeting (February 15-21, 2015). Achille Kabore and Lisa Rotondo attended the WHO African Region NTD Regional Programme Review Group 2nd Preventive Chemotherapy meeting in Brazzaville, Congo. The meeting included National Programme Managers from Burkina Faso, Mali, Congo, The Gambia, Malawi, Mali, Nigeria, Tanzania, and Uganda. In addition, about 20 RPRG members, 10 observers, and 16 WHO staff (AFRO, APOC, HQ) were present.

Presentations and subgroup meetings on PC-NTD Mapping Project, LINKS, Mapping Review Groups, MDA Scale-up (review of MDA reports, medicine applications and scale up/down plans), review of Transmission Assessment Survey eligibility and report forms, were all conducted as part of the meeting proceedings. As an official observer to the meeting, ENVISION representatives were able to provide useful context and justifications to support national NTD program data and represent the needs of

USAID-supported countries in receiving consistent and timely review, which is essential for program implementation. Several notable themes and observations came out of the meeting; these are detailed below.

- Observers (which included RTI) stressed the need for the RPRG to fulfill its newly established remit to address issues of preventive chemotherapy for all NTDs, including trachoma, and to lessen focus on other interventions (WASH, morbidity, etc.) that may detract from its mission. The continued focus on LF has led some disease experts to drop out, feeling their expertise was not being utilized. The need for an established means of interacting and linking with the TEC was noted as essential to this integration.

- As has been noted in the past, the need for better communication between the RPRG and national programs was a focus of the meeting. Several countries cited issues with delayed or incorrect implementation based on the lack of response from the RPRG. The impact of these issues was noted to be of global impact, as financial resources, drugs, and time are wasted in the process. The recommendation of the group was to identify liaisons between the RPRG and countries and create an AFRO RPRG secretariat. Essential to the success of the RPRG's role in providing technical guidance will also be the need for ad-hoc reviews and approvals in-between formal meetings.

- During the presentation on the PC-NTD Mapping Project, it was noted that the current gaps identified by AFRO differ from those identified in the USAID NTD Database and those recognized by GTMP. Based on these discrepancies with AFRO's data, it was suggested that a system for tracking mapping gaps be developed and included in the WHO Joint Application Package. In the same way, a standard report template was suggested during the mapping review groups to ensure standardized data is reported for consistent review across countries.

Sixth NTD-STAG Global Working Group Meeting on Monitoring and Evaluation of Preventive Chemotherapy (February 9-11, 2015). The sixth NTD-STAG Global Working Group Meeting on M&E of PC was held in Geneva with an objective to prepare a working paper on M&E of PC interventions to present to the NTD-STAG 2015, and to determine priority activities for each of the sub-groups for 2015 and beyond. Emphasis of the meeting discussions was on assessment and assurance of PC data quality for national programs, diagnostics for schistosomiasis, coordinated monitoring and evaluation for lymphatic filariasis and onchocerciasis elimination and program evaluation.

ENVISION was represented by two RTI staff members, Katie Zoerhoff and Phil Downs. Katie Zoerhoff has also served as advisor to the working group and rapporteur for the meeting. Country representatives shared important information regarding country and regional challenges with M&E, including low coverage, accuracy of denominators for determining coverage, persistent microfilaremia, human resource constraints for M&E, and challenges with data timeliness. Strategies to address these concerns will subsequently be incorporated into ENVISION's activities, where appropriate.

NTD Drugs and Diagnostics

Donor Coordination

RTI participates in and initiates donor coordination mechanisms in order to strengthen procurement in support of country programs. In addition to participation in ongoing WHO-led discussions about PZQ procurement, RTI works with WHO and the drug donation programs to track requests, approvals, and shipments of donated IVM, ALB, MBD, and Zithromax. As such, ENVISION plays an important role in facilitating communication between national NTD programs and drug donation programs. This communication is informal and includes quarterly discussions of the donation programs' application and shipping timelines. In addition, ENVISION reaches out to the donation programs when issues arise in specific countries, in order to facilitate resolution.

ENVISION is working with USAID to understand and clarify the new WHO donation of FTS. ENVISION has provided information to WHO about upcoming planned TAS surveys and diagnostic needs. At this time, it is anticipated that ENVISION will provide (ICT) cards or FTS, for all countries in the portfolio where TAS is anticipated to take place in calendar year 2015.

To date, there have been $5,978,958,248 worth of donated drugs delivered to ENVISION countries, since FY12. In the first half of FY15, more than $1.6 billion in donated medicines were delivered to countries supported by USAID's NTD Program, including those supported by ENVISION (Table 27). A total of $10.5 billion have been donated since the start of the program.

Table 27. Value of donated drugs delivered to ENVISION supported countries, FY15 Q1-Q2

Country	In USD
Benin	124,313
Cameroon	56,034,480
DRC	701,100
Ethiopia	796,051,104
Guinea	4,155,600
Haiti	34,512
Indonesia	3,026,400
Mali	16,018,500
Mozambique	922,500
Nepal	0
Nigeria	347,355,451
Senegal	9,260,100
Tanzania	904,620
Uganda	193,467,963
ENVISION Total	**1,428,056,643**

Note: The values represent a donation to the entire country, not just USAID-supported areas.

NTD Drug Procurement

During the first half of FY15, RTI procured DEC and PZQ for donation to countries supported by ENVISION. See Table 28 for drug procurement details by country. Additional PZQ, DEC, and tetracycline eye ointment (TEO) will be delivered during the second half of FY15.

Table 28. Drug procurement supported by ENVISION, FY15 Q1-Q2

Country	Tablets of PZQ delivered	Tablets of DEC delivered
Benin	1,657,500	
Haiti		6,834,000
FY15 Q1-Q2 Total	**1,657,500**	**6,834,000**

*Commodities delivered to countries were not necessarily distributed by national programs during the same reporting period.

NTD Diagnostics Procurement

Along with the procurement of drugs, RTI procured diagnostic commodities, Kato Katz kits (for SCH mapping and STH TAS), and ICT cards (for LF sentinel sites, remapping, and TAS). A pooled procurement of these commodities is aimed at creating economies of scale and streamlined logistics. See Table 29 for diagnostics procurement by country.

ENVISION faced challenges with diagnostic procurement in the first half of 2015. Vestergaard Frandsen, the WHO-recommended manufacturer of Kato Katz kits, stopped producing new kits and their stock ran out in early 2015. RTI was able to purchase some of the remaining kits for critical country programs. Globally, partners have been working to identify a high quality replacement for the kits, and RTI has liaised with WHO, CDC, and the TFGH on the issue. At this time, the situation is still in flux, and we will continue to work with partners to identify a new manufacturer.

Table 29. Diagnostic procurements supported by ENVISION, FY15 Q1-Q2

Country	ICT cards delivered	Kato Katz kits* delivered
Benin		24
Cameroon	19,075	
Haiti	33,000	12
Indonesia	6,600	
Mali	9,300	
Tanzania	72,050	12
FY15 Q1-Q2 Total	**140,025**	**48**

* 400 tests per kit

RTI procured a large number of ICT cards for use by country programs to complete sentinel and spot check site surveys, transmission assessment surveys, and LF mapping. In Haiti, lengthy delays in customs clearance of a large quantity of cards resulted in their being unusable when cards tested with positive control were found to give a negative result. RTI worked with the manufacturer (Alere Inc.), the Haiti LF program, IMA World Health, the USAID/Haiti Mission, and USAID Washington to document the damaged cards and determine a way forward. USAID Washington worked with the USAID/Haiti Mission to negotiate an expedited clearance process. While negotiations were ongoing, RTI identified a shipper that had a climate-controlled warehouse at the Port-au-Prince airport; and a shipment of cards sent to Haiti in January was stored there during the 10 days it took for USAID and the US Embassy to complete the clearance process. Those cards were in good condition and have been used for TAS and sentinel site surveys throughout the country.

Technical Assistance in Logistics

ENVISION provides funding for Drug Logistics Officers in Uganda, Tanzania, and Mozambique. These technical assistants work closely with the national NTD programs and MOHs to forecast and quantify drugs needed for MDA campaigns. They complete physical inventories at district and regional level following campaigns. In Tanzania, the Drug Logistics Officer worked closely with district and regional pharmacists to identify leftover PZQ and transfer it to districts where MDA was planned. In all three countries, the technical assistants have conducted ZTH inventories, ensuring that ITI has information about the amount of drug remaining in country, which has been critical during the current ZTH shortage.

In Mozambique, the Drug Logistics Officer has led organization and preparation of medicine kits at the central warehouse in preparation for MDA in all provinces. In Uganda, the Drug Logistics Officer is primarily sent out to problem districts, where he provides supervision around drug distribution, quantification, and storage issues.

NTD Supply Chain Forum

Upon invitation by GlaxoSmithKline (GSK), RTI attended the NTD Supply Chain Forum meeting in Lisbon in March 2015 (no USAID ENVISION funds were used for this activity). Representatives of the pharmaceutical companies who donate the bulk of NTD drugs attended the meeting, including Merck Serono, Johnson and Johnson (J&J), Merck US, and GSK. Also in attendance were representatives from CWW, WHO, and the Bill & Melinda Gates Foundation. RTI was asked to assist with developing requirements around improving forecasting, planning, and tracking of the donated drug supply.

Based on discussions from this meeting, participants will develop an activity description for activities to be funded by the Bill & Melinda Gates Foundation. There is potential for RTI to continue to provide expertise on NTD supply chain management and MDA programming for this initiative, expanding on the work started under the NTD Control Program and ENVISION. This work aims to address many of the logistics challenges faced by countries supported by ENVISION and other USAID-supported NTD projects.

Technical Assistance Facility

ENVISION established the TAF to serve the specific technical assistance needs of countries receiving USAID support for NTD control and elimination. It was designed to be flexible and responsive, with the level of effort determined by demand and coordinated through a small ENVISION management and technical team accessing a broad range of consultant expertise.

Table 30 and 31 detail the FY14 TAF activities that continued into FY15 and new FY15 requests. The bulk of the TAF activities involved aiding countries in collating and analyzing data for LF elimination dossiers. In Bangladesh, the Philippines, and Cambodia, the TAF consultant used draft WHO LF dossier templates to gather data and write drafts of country dossiers. These activities helped countries prepare for dossier submission and understand critical steps necessary to complete data collection to meet dossier requirements. In addition, country and consultant feedback was used to modify the WHO templates in order to make them more user-friendly.

Table 30. FY14 TAF requests carried over into FY15

Requester	Country	Topic	Status
USAID	Cambodia	LF elimination dossier development	Feedback on draft report sent to consultant. Follow up travel scheduled for May.
ENVISION	Nepal	STH assessment protocol	Report is being finalized.
USAID	Bangladesh	LF elimination pre-dossier development	Report and draft pre-dossier finalized.
USAID	Vietnam	LF elimination dossier development	Consultant travel scheduled for May 2015.

Table 31. FY15 TAF requests			
Requester	**Country**	**Topic**	**Status**
USAID	Philippines	Development of training materials on LF dossier data collection	Draft documents with consultant for finalization
World Vision	Zimbabwe	LF re-mapping	Scope of work in development

Global Mapping

As noted earlier, to reach the 2020 NTD elimination goals, all NTD-endemic countries should be at least at the MDA implementation stage for the preventive chemotherapy NTDs by the end of FY15. However, as of September 1, 2014, more than a thousand districts in 21 countries in the WHO AFRO region that are not supported by USAID still require mapping for at least one of the NTDs. In FY14, as part of USAID's commitment to support completion of NTD mapping by 2015, ENVISION supported mapping in 4 countries: Zimbabwe, Zambia, Cote d'Ivoire, and Chad. In Zimbabwe 65 districts were mapped for LF and 8 are being mapped for trachoma (Table 32). Trachoma mapping is ongoing in Cote-D'Ivoire (10 districts), Zambia (3 districts), Chad (27 districts through USAID funds and 9 under DFID support). Mapping in Malawi with USAID support is anticipated for the next reporting period.

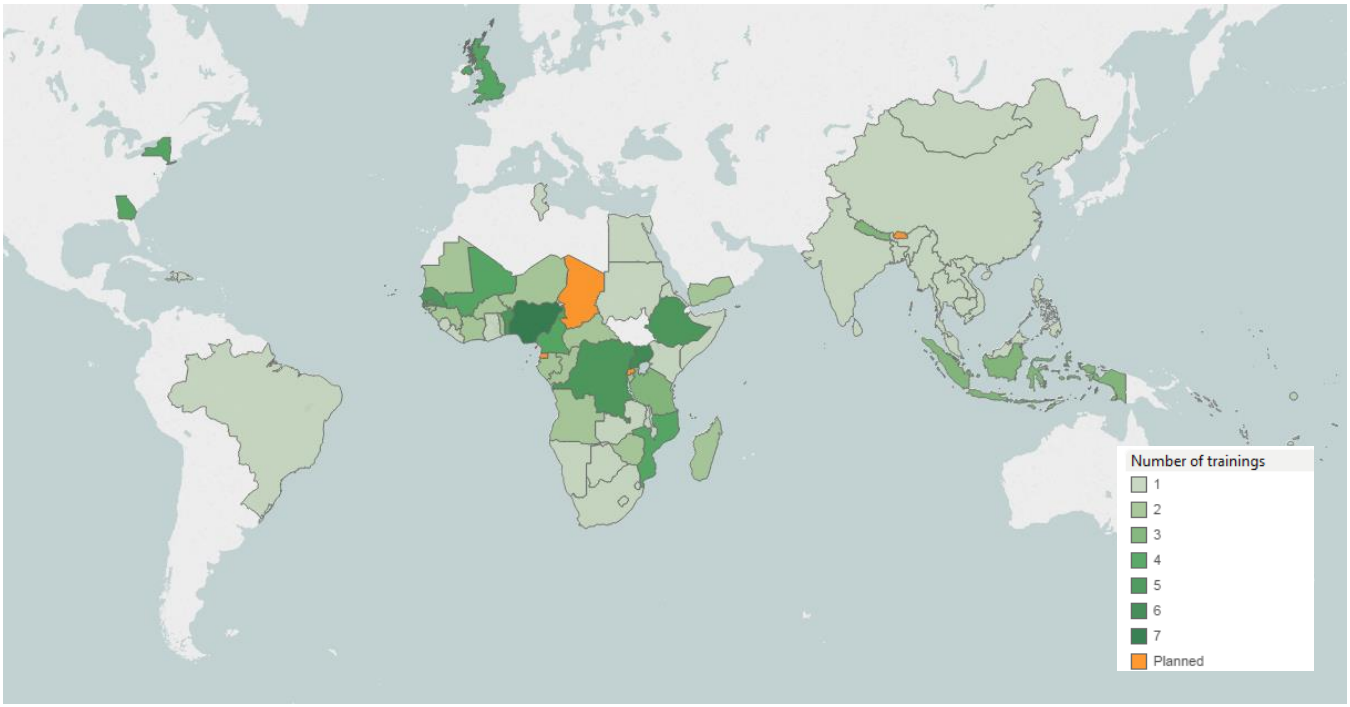
Table 32. Global mapping supported by ENVISION			
Country	**Diseases**	**Districts targeted**	**Status**
Zimbabwe	LF and Trachoma	65 (LF) 8 (Trachoma)	Partially completed for trachoma LF remapping planned in 4 districts
Chad	Trachoma	29 EU (including 7 through DFID support)	27 mapped 2 cancelled for security reasons (mined field)
Zambia	Trachoma	3	Completed
Cote d'Ivoire	Trachoma	10	Ongoing
Malawi	Trachoma	2	Planned to start in June-July 2015

Capacity Strengthening

The ENVISION project has developed, disseminated and provided training and technical assistance on the tools and resources necessary for effective NTD program implementation. As other organizations and countries have come to see the strong value of these tools and resources and are now requesting to use and be trained on them, ENVISION is increasingly seen as a leader in the field of NTD capacity strengthening. ENVISION supports the implementation and participant attendance for several courses to strengthen the capacity of national NTD programs.

To date, ENVISION has trained individuals from over 77 countries (Figure 12). Its trainings and other activities have strengthened the capacity of individuals working from community to global level, as well as a cadre of trainers and experts on NTD guidelines and tools.

Figure 12. Number of ENVISION-supported NTD Trainings attended by representatives of NTD endemic countries



Training Materials Development

SAEs Training. In the reporting period, ENVISION implemented a dissemination strategy to ensure broad electronic and hard copy distribution and use of the SAE handbook. Over 250 print copies of the handbook have been delivered to national NTD programs, NGOs and global experts, and the easily accessible Online Handbook has been shared with far more individuals working on NTDs.

ENVISION also finalized a complete in-person training package for national program managers, which includes modules on patient care, communicating with communities and the media, distinguishing adverse events from SAEs, determining causality, reporting SAEs and correcting identified problems. The project is currently finalizing a plan for wide training rollout, which will include an eLearning component and details on how to make the training available to additional USAID-supported countries.

WHO Standardized District Level Management NTD Training Course. During the past two FY15 quarters, ENVISION played a key role in finalizing the draft of the WHO Standardized District Level Management NTD Training Course. The course includes modules on disease basics; program management; budgeting and resource mobilization; advocacy, sensitization and social mobilization,

MDA operations; morbidity management; WASH; laboratory and diagnostics; and M&E. ENVISION also provided critical support to plan and prepare for the course pilot in Tanzania, which was completed in mid-April, 2015. The course will serve as a key resource for district-level NTD management teams in implementing and scaling up NTD programs at the level of implementation.

NTD Trainings Conducted

WHO Integrated NTD Programme Managers' Training Course. This modular, five-day course developed by WHO, USAID, RTI and many additional NTD partners features critical components of integrated NTD strategies, including implementation techniques, program management principles, drug and serious adverse event management, M&E, planning and costing analysis, and advocacy strategies to garner long-term support. During FY15 and in collaboration with WHO, ENVISION supported two WHO Integrated NTD Programme Managers' Training Courses in the WHO Regional Office for the Eastern Mediterranean (EMRO) and WPRO regions. A total of 33 national NTD Programme Managers from 24 countries attended the trainings.

Integrated NTD Database Training and DQA Trainings. The Integrated NTD Database Training equips participants with the knowledge and skills to customize the national database template to their country context and utilize the database to store, manage, analyze, and report NTD data. The training includes orientation to the tool by demonstration as well as a number of practical exercises to familiarize users with the tool. The DQA Training provides training for national NTD program managers, M&E officers and data managers to conduct the DQA in their countries, interpret the results, and develop a country-specific action plan that strengthens the national program's NTD data management and reporting system. The Integrated NTD Database and DQA trainings are held in conjunction with one another to minimize costs and travel time. In FY15, ENVISION supported a combined Integrated NTD Database and DQA training for 54 National NTD Programme Managers from Francophone WHO AFRO countries, as well as a DQA Training for 3 Ugandan MOH Data Managers.

Grants Management Training. Grants management training aims to develop the capacity of NGOs, civil society organizations, and host government entities to successfully manage U.S. government funds – USAID funds in particular. The core elements focus on pre-award surveys, evaluation, types of grants, execution of grant award, administration and regulatory compliance. In FY15, ENVISION conducted Grants Management Training in Nepal, which provided training for 16 logistics and field supervisors and financial staff on administration and management of fixed obligation grants.

Table 33. Training courses implemented with ENVISION support in FY15 Q1-Q2

Training	# of training participants	Profile of training participants	Countries or regions	Nature of ENVISION support	Collaborators and their role
WHO Integrated NTD Programme Managers' Training	33	National NTD Programme Managers	WHO EMRO region, WHO WPRO region	Technical, facilitation, financial	WHO (financial), USAID (financial)
WHO AFRO Francophone Integrated Database and Data Quality Assessment Training	58	National NTD Programme Managers, MOH Data Managers	WHO AFRO region	Technical, facilitation, financial	--
TOTAL	91				

In addition, ENVISION provided funding and technical assistance to national NTD programs in support of the cascaded training conducted as part of MDA implementation, see Table 34. The large majority of people trained for MDA are drug distributors. Much of the MDA training will occur in the second half of the year, just in advance of MDA. See FY15 semi-annual country reports for more information on MDA related training.

Table 34. Persons trained for MDA with ENVISION support in FY15 Q1-Q2

Country	# Persons targeted for training in FY15	# Persons trained in Q1-Q2
Benin	22,037	453
Cameroon	104,703	61
DRC	4,073	23
Ethiopia	89,662	40,445
Guinea	11,517	0
Haiti	13,851	6,005
Indonesia	92,200	92
Mali	33,905	44
Mozambique	2,887	0
Nepal	42,852	35,993
Nigeria	115,386	3,112
Senegal	276	36
Tanzania	15,489	120
Uganda	172,659	43,514
ENVISION TOTAL	**721,497**	**129,898**

*Data being compiled or not yet available.

Expected Long-term Impact of Capacity Strengthening Activities

ENVISION capacity strengthening efforts are expected to make national NTD programs aware of and prepare them to effectively use new and existing global standards, best practices, tools and resources to increase their own ability to successfully implement MDA and scale-up coverage. Over the long-term, these efforts will lay the foundation for country-owned, effective and sustainable national NTD programs that are ultimately able to meet their NTD control and elimination targets.

Application and Utilization of NTD Tools

As the largest global platform working with national NTD programs, ENVISION has successfully collaborated with global partners to develop M&E tools that are utilized by NTD-endemic countries, including but not limited to those that are supported by USAID's NTD projects. ENVISION supports training and technical assistance to promote uptake of these tools for improving the capacity of NTD programs.

DQA Guidelines and Tool: During the first half of the year, ENVISION began synthesizing the feedback received from the extended field-testing in six ENVISION-supported countries. This feedback will now be incorporated into an updated tool in the second half of the year, and will be available for continued roll-out and use in countries supported by USAID as well as other NTD-endemic countries. Also during the reporting period, the process, results, and lessons learned from the extended field-testing were presented at the USAID Prime Partners Meeting (Kalpana Bhandari, Molly Brady) and the WHO M&E Working Group on PC NTDs (Katie Zoerhoff). The WHO M&E Working Group recommended the use of DQAs by country programs as a systematic approach to objectively assess PC data quality. During the second half of the year, the DQA is planned for implementation in multiple ENVISION countries, including Benin, Ethiopia, and Haiti.

WHO AFRO held a regional level training on the Integrated NTD database for francophone countries in December 2014. ENVISION and WHO staff served as facilitators, effectively disseminating the tool and training 44 participants across 19 countries. (See Capacity Strengthening section for more details.) During the second half of FY15, regional level trainings are planned with WHO SEARO/WPRO, and for Anglophone countries in the AFRO region.

Integrated NTD Database: Since the first phase of the Integrated NTD Database was launched in June 2014, three ENVISION countries have received country-level training on the database and historical data entry is either complete or ongoing. Nigeria and Indonesia have nearly completed entering all of historical NTD data including demography, surveys, and interventions. Ethiopia was trained on the database during the first half of FY15 and is in the process of developing and implementing a historical data entry plan. Also during the reporting period, preparations were made in Haiti and Uganda to train and roll out the tool. In all countries, either local or international consultants, depending on the country's needs, worked with the MOH to train them in and populate the database, and the ENVISION M&E team provided technical support as needed. Lessons learned to date from implementing the Integrated NTD Database include:

- It is more effective to conduct a targeted training for the users of the Integrated NTD Database, such as a data manager from the MOH and in-country lead NGO, followed by an overview orientation with a larger group of NTD program managers, than to hold a large in-depth training with all stakeholders. This allows a smaller team to become more familiar with the tool and its use. This smaller team is then able to present the database with actual country data rather

than a dummy dataset, which creates excitement among the wider group to use the database for data storage and analysis.

- Prior to rolling out the database, there is a need to confirm that the necessary equipment, such as a dedicated computer(s), external hard drives for back-up, etc., are in place. This helps to ensure that the data are secure and promotes the sustainability of the tool beyond the life of the ENVISION project.
- Oversight during the data entry process is crucial to ensure high quality of data.
- A data entry plan should be developed for each country, which identifies the location of the database, security and back-up, the individuals responsible for managing the database and those entering data, source(s) of data, efforts to ensure quality of data, timeline of data entry, assumptions for historical data entry, and the budget, among other possible components. ENVISION has developed a template for this plan, in order to guide country teams when starting to use the Integrated NTD Database.

Preparations are ongoing for implementing the database in the second half of FY15 in multiple ENVISION countries, including Benin, Cameroon, Haiti, Mali, Senegal, and Uganda.

The second phase of the Integrated NTD Database development started in late February 2015 and is expected to incorporate suggestions from the current users of the database, identify and resolve potential bugs, and enhance reporting features. The ENVISION M&E team is in communication with partners and global disease experts to integrate the WHO reporting forms into the database. This includes the Trachoma Evaluation and Monitoring Form (TEMF), the LF TAS Eligibility form, LF Elimination Dossier, and revised PC Epidemiological form.

In conjunction with the regional DQA training mentioned above, ENVISION and WHO staff disseminated the tool and facilitated training of 44 participants across 19 countries from francophone Africa in December 2014. (See Capacity Strengthening section for more details.) During the second half of FY15, regional level trainings are planned with WHO SEARO/WPRO, and for Anglophone countries in the AFRO region.

Supportive Supervision Checklist: Efforts to finalize a supportive supervision checklist that incorporates the best practices across multiple countries will be undertaken during the second half of the year. ENVISION will make this resource available to national programs, and provide technical assistance to develop or adjust, if needed, checklists that are specific to each country's MDA strategy and data collection and reporting system.

Template for National M&E Plans: As many countries are revising their National NTD Plans of Action/Master Plans in the next year as well as making plans for conducting TAS and TIS, this is an opportune time to ensure countries are aware of and documenting their M&E strategy. ENVISION will provide technical guidance to national programs to utilize the template to finalize national M&E plans. ENVISION will work with global partners, including WHO HQ and its regional offices, to identify the areas of the current National M&E Plan template that need strengthening and make revisions as needed.

Indicator Compendium: The draft of the WHO Indicator Compendium is being reviewed by technical experts at WHO. During the second half of the year, ENVISION will work with WHO to finalize the compendium and disseminate it to NTD-endemic countries, implementing NGOs, and other partner organizations.

LF Elimination Dossier Template: During the reporting period, ENVISION collaborated with WHO to develop and pilot the LF elimination dossier template. For more details, please see the LF section.

Mobile Technologies: RTI has continued to provide technical assistance to national programs that request the use of mobile technologies to capture M&E data on NTDs, including sentinel site and spot check surveys for SCH/STH, pre-TAS and TAS assessments, trachoma pre-survey assessments (desk reviews), trachoma baseline mapping (through GTMP), trachoma impact assessments and surveillance surveys, and NTD operational research. Collaborating with the TFGH, RTI provides technical support to national program managers in the use of various electronic gathering systems for various M&E data capture and operational research opportunities.

NTD Operational / Implementation Research

As national programs accelerate control and elimination efforts, a growing number of operational research (OR) and implementation research (IR) questions have surfaced. Fortunately, several funders, including USAID, the Bill and Melinda Gates Foundation, DFID, and CDC, are contributing towards OR/IR to help answer a wide range of issues.

Because ENVISION partners are widely recognized for being on the frontlines with the MOHs and endemic communities in the fight against NTDs, ENVISION is playing a critical role in providing insight to the major challenges faced by national program managers, creating opportunities for learning, and directly or indirectly supporting multi-year OR/IR related projects. These OR/IR projects are addressing a wide range of issues, including: the role of new diagnostic tests to evaluate the presence and progression of disease, evaluating improved survey methodologies for measuring disease prevalence and program impact, testing alternative data capture tools, supporting enhanced social mobilization and MDA techniques, and developing improved community-based strategies during MDA.

Table 35 provides a summary of OR/IR opportunities directly or indirectly supported by ENVISION, in collaboration with other NTD researchers such as the TFGH NTD Support Center (NTD-SC), CNTD, CDC, and Sightsavers. All activities were conducted in partnership with the MOH and designed in response to the needs of the national programs. Unless the activity was included in an approved ENVISION work plan for FY15, funding for specific research activities came from another source and not from ENVISION. ENVISION has primarily supported OR/IR initiatives through its support of routine MDA and/or M&E activities; where indicated, ENVISION technical and operational staff have also provided direct technical support in leading research initiatives.

Table 35. NTD operational research under ENVISION, FY14-FY15

Diagnostic Tools

User of Antibody Testing to Assess LF Program End-points in *Brugia* Areas

Objective: to assess the value of antibody testing (antibody *vis-à-vis* microfilaraemia) for defining endpoints in programs targeting *Brugia* LF infection

Role of ENVISION: Support for remapping of 18 districts and development of first draft report.

Countries: Indonesia; **Year:** 2014-2015; **Collaborators**: RTI (main lead), CDC, NTD-SC, Indonesia MOH, WHO; **Funding:** BMGF

Publication/Conference: First draft report provided by RTI in December. Revisions expected and final version to be circulated in 2015.

Exploring alternative indicators for trachoma endpoint decision making

Objective: to identify which tool is most appropriate for use with trachoma impact assessments to decide whether MDA can safely be stopped.- part of a multi-center study comparing detection by clinical (TF), infection (PCR) and serologic (antibody by enzyme-linked immunosorbent assay (ELISA) tools.

Role of ENVISION: Support Trachoma Impact Assessments in targeted districts.

Country: Uganda; **Year**: 2014 – completed; **Collaborators:** NTD-SC, RTI, GTMP, LSHTM, NTD-SC, WHO; **Funding**: BMGF

Publication/Conference: Samples are to be processed and results to be provided by 2Q2015**.**

The Epidemiological assessment of the distribution of LF and OV Using an Antibody-based Rapid Diagnostic Test

Objective: Compare Biplex Antibody test for Onchocerciasis and LF to conventional ELISA.

Role of ENVISION: Support Field-based survey teams

Country: DRC; Year 2014 – completed; **Collaborators:** NTD-SC, RTI, CDC, APOC, MOH-DRC, WHO; **Funding:** BMGF

Publications/Conference: A full report is expected by 2015.

Survey Methodology

Alternative Approaches to Coverage Surveys

Objective: to compare the cost, time and feasibility of 3 different survey sampling methodologies (Expanded Program for Immunization (EPI) approach, Lot Quality Assurance Sampling (LQAS) design and probability sampling) for conducting coverage surveys.

Role of ENVISION: Coordination and logistical support for trainings.

Country: Uganda; **Year:** 2014-2015; **Collaborators**: NTD-SC, RTI; **Funding:** BMGF

Publication/Conference: Results expected in 2015

Methods for Prioritizing Trachoma Population-based Prevalence Surveys

Objective: To develop and validate methodologies for determining which districts should be targeted for district level prevalence assessments by population-based probability sampling.

Role of ENVISION: Support of field studies and write-up

Countries: Uganda ('14), Tanzania ('14), DRC ('14), Mozambique ('15); **Year**: 2014 – 2015; **Collaborators**: CNTD (DRC), RTI (Uganda, Tanzania, Mozambique); **Funding:** USAID

Publication/Conference: ASTMH 2014; Presentation at Trachoma Scientific Informal Workshop 2015; manuscript development 2015

Feasibility of Integrating TAS and STH Assessment

Objective: to pilot a new STH evaluation methodology (based on the TAS sampling protocol) implemented at the time of a TAS.

Role of ENVISION: Support of TAS surveys

Countries: Indonesia, Uganda, Benin, Tanzania; **Year**: 2014-2015; **Collaborators**: NTD-SC, RTI; **Funding:** BMGF

Publication/Conference: Report Available

Develop a coordinated approach to stopping MDA in onchocerciasis/LF overlap areas

Objective: Side-by-side comparison of village-based sampling for Mf vs. integrated LF Onchocerciasis TAS with Biplex tests.

Role of ENVISION: Identify sites for study

Countries: Senegal; **Year**: 2014-15; **Collaborators:** CDC, RTI, NTD-SC, WHO; **Funding:** BMGF

Publication/Conference: Final report 2015

Coverage Assessment Tool

Objective: Develop a rapid assessment tool to permit program managers to effectively assess coverage and compliance.

Role of ENVISION: Coordination and logistical support for trainings

Countries: Uganda, Ethiopia**; Year:** 2014-15**; Collaborators:** NTD-SC, RTI-Uganda, WHO; **Funding:** BMGF

Publications/Conference: final analysis expected by mid-2015

Treatment strategies

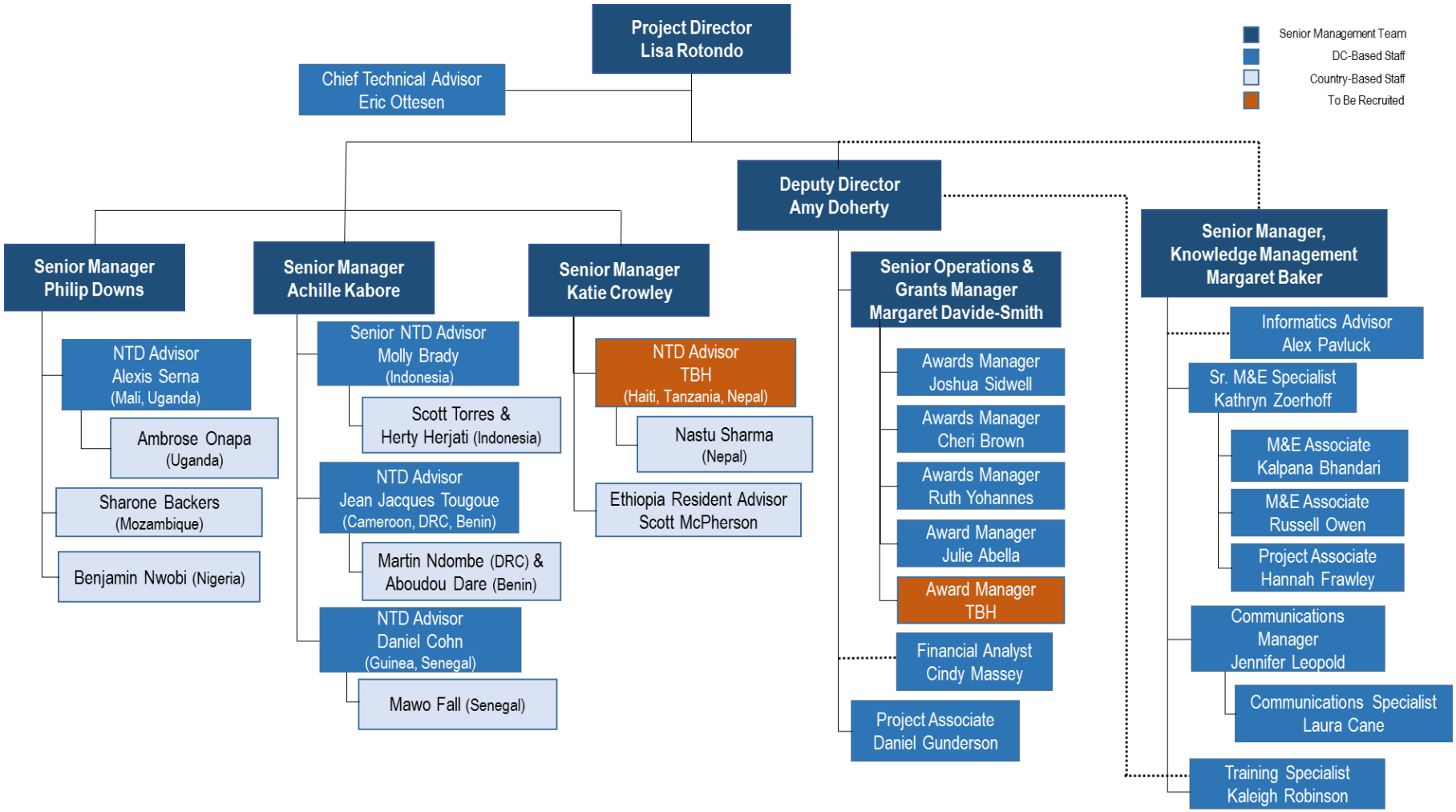
Optimizing approaches to improve MDA data flow

Objective: to develop and expand current HMIS mTrac system (SMS-based) for the collection of MDA indicators and apply automated call system for monitoring drug supply (Reliefwatch.

Role of ENVISION: Support of MDA and delivery of drugs

Countries: Uganda; **Year**: 2015; **Collaborators:** UNICEF, NTD-SC, RTI, Reliefwatch; **Funding:** BMGF

APPENDIX A: RTI ORGANIZATIONAL CHART FOR ENVISION



APPENDIX B: ENVISION PRESENTATIONS AT ASTMH 2014

Symposium Title: **Global Updates on Challenges and Successes in Addressing Cross-border Transmission in Sustainable Neglected Tropical Disease Control and Elimination**. Co-Organizers: Achille Kabore, RTI International and Yaobi Zhang, Helen Keller International. Presentations given:

> *Impact of cross-border migration on the persistence of LF microfilaraemia in the southwest region of Burkina Faso.* Roland Windtaré Bougma, Ministry of Health, Burkina Faso
>
> *Cross Border issues in the elimination of trachoma in Nepal.* Sailesh Kumar Mishra, Ministry of Health and Population, Nepal
>
> *Cross-border challenges in surveillance and certification of dracunculiasis eradication.* Gautam Biswas, World Health Organization, Geneva, Switzerland
>
> *NTDs and cross-border collaboration in West Africa: The way forward.* Joseph Koroma, Family Health International 360, Accra, Ghana

Non-symposium oral and poster presentations

Presentation Title: *Elimination of Onchocerciasis in Africa: Do we have strategies and tools? Uganda case analysis*. Thomson Luroni Lakwo, Edridah Muheki Tukahebwa, Peace Habomugisha, **Ambrose Onapa, Harriet Namwanje**, Ephraim Tukesiga, David Oguttu, Rolf Garms, Moses Katabarwa, **Stella Agunyo**

Presentation Title: *NTD communications workshops for health professionals and journalists in NTD endemic countries, tackling fear and neglect, sharing knowledge, building bridges*. Elizabeth Kurylo, Geoffrey Knox, **Lisa Rotondo, Mawo Fall,** P. J. Hooper, **Phil Downs**, Danny Haddad, Huub C. Gelderblom

Presentation Title: *Determining where to map for Trachoma: Lessons from Uganda's preassessment survey.* **Harriet Namwanje**, Patrick Turyaguma, Anne Heggen, Edridah Muheki Tukahebwa, **Stella Agunyo, Ambrose Onapa**

Presentation Title: *Significant variation of SCHsomiasis and soil transmitted helminthes prevalence across ecological areas in Northern Benin: call for gender focus and localized interventions.* Moudachirou Ibikounlé, **Jean Jacques Tougoue**, Wilfrid Batcho, Mariam Sani-Lamine, Yolande Sissinto-Savi de Tovè, **Abdoulaye Daré**, Dorothee Kindé-Gazard, **Achille Kabore**

Presentation Title: *Trachoma prevention through improved access to water and sanitation improve hygiene practices.* Mariamo Mbofana, **Sharone Backers, Philip Downs**, Brian Chu, Rebecca Mann Flueckiger, Rebecca Willis, **Alex Pavluck**, Anthony Solomon

Presentation Title: *Evaluation of lymphatic filariasis and onchocerciasis in three Senegalese districts treated for onchocerciasis with ivermectin for more than 15 years.* Nana O. Wilson, Alioune Badara Ly, Ngayo Sy, Lamine Diawara, **Abdel Direny, Mawo Fall**, Vitaliano A. Cama, Paul T. Cantey, Mark L. Eberhard, LeAnne M. Fox, Daouda Ndiaye, Christine Dubray

Presentation Title: *Community sanitation coverage and active trachoma in children aged 1-9 years in Amhara Region, Ethiopia, following 5 years of the SAFE strategy*. **William E. Oswald**, Aisha E.P. Stewart, Michael R. Kramer, Tekola Endeshaw, Mulat Zerihun, Berhanu Melak, Eshetu Sata, Demelash Gessesse, Tesfaye Teferi, Zerihun Tadesse, Birhan Guadie, Jonathan D. King, Paul M. Emerson, Elizabeth K. Callahan, W. Dana Flanders, Christine L. Moe, Thomas F. Clasen

Presentation Title*: Integration of neglected tropical disease mass drug administration with the national childhood immunization campaign in insecure areas: perception of participants in the Kidal region of Mali.* Mohamed Berthé, **Benoit Dembele**, Cheickna Tounkara, Massitan Dembele, Aba Dorintié, Seydou Goita, Zana Berthé

Presentation Title*: Experience in conducting data quality assessment for community-based mass drug administration for neglected tropical diseases in Cameroon.* Etienne Nnomzo'o, Emilienne Epée, **Julie Akame**, Yannick Nkoumou, **Ann Tarini, Emily Heck Toubali**, **Whitney Goldman**, **Katie Zoerhoff, Jean Jacques Tougoue**, Njombini Désire, Serge Akongo

Presentation Title*: Results from a data quality assessment of the neglected tropical disease data management system in Cameroon.* Etienne Nnomzo'o, Emilienne Epée, **Julie Akame**, Yannick Nkoumou, **Ann Tarini, Emily Heck Toubali, Whitney Goldman, Katie Zoerhoff, Jean Jacques Tougoue,** Njombini Désire, Serge Akongo

Presentation Title*: Attitudes and practices surrounding ivermectin treatment in populations living in the loa loa endemic region of Littoral, Cameroon.* **Julie Akame**, Yannick Nkoumou, **Ann Tarini**, Georges Mbenda Behalal, Martin Yamba Beyas, Etienne Nnomzo'o

Presentation Title*: Fifty eight years of man against the worm in Budongo Onchocerciasis focus of Uganda- Interruption of transmission is finally in sight.* Moses N. Katabarwa, Tom Lakwo, Peace Habomugisha, Ephraim Tukesiga, Edson Byamukama, Edson Byamukama, Galex Orukan Ochieng, William Mugayo, Thomson Isingoma, Moris Okumu, Martini Mborekere, David Oguttu, Annet Khainza, Edridah Tukahebwa, Rolf Garms, Tom Unnasch, Frank O. Richards

APPENDIX C. COUNTRY SPECIFIC PROGRESS IN REACHING MILESTONES

*All data as of April 2015

BENIN

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	100%	96%	46%	0%
Trachoma	100%	0%	0%	0%
Oncho	100%	100%	0%	
Schisto	100%	28%	0%	
STH	100%	47%	0%	

CAMEROON

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	100%	85%	4%	0%
Trachoma	100%	100%	29%	0%
Oncho	100%	100%	0%	
Schisto**	100%	61%	0%	
STH	100%	100%	0%	

**Not 100% geographic SCH MDA coverage in low endemicity areas

DRC

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	94%	0%	0%	0%
Trachoma	77%	0%	0%	0%
Oncho	100%	100%	0%	
Schisto	94%	0%	0%	
STH	94%	0%	0%	

ETHIOPIA

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	100%	33%	0%	0%
Trachoma	94%	53%	0%	0%
Oncho	100%	84%	0%	
Schisto	76%	0%	0%	
STH	76%	0%	0%	

GUINEA

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	100%	17%	0%	0%
Trachoma**	89%	89%	0%	0%
Oncho	100%	100%	0%	
Schisto	100%	50%	0%	
STH	100%	100%	0%	

**Trachoma mapping gaps are in areas of insecurity

HAITI

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	100%	100%	14%	0%
STH	100%	100%	0%	

INDONESIA

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	90%	59%	10%	0%
Schisto	100%	100%	0%	
STH	100%	35%	0%	

MALI

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	100%	100%	3%	0%
Trachoma	100%	100%	49%	0%
Oncho	100%	100%	0%	
Schisto**	94%	93%	0%	
STH	100%	100%	0%	

**Not 100% SCH MDA geographic coverage in low endemicity areas. SCH mapping gaps are in areas of insecurity.

MOZAMBIQUE

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	100%	100%	0%	0%
Trachoma	100%	60%	0%	0%
Oncho	100%	**	**	
Schisto	100%	99%	0%	
STH	100%	105%	0%	

*Mozambique is considered to be hypo-endemic for oncho; the treatment strategy in the context of oncho elimination is under discussion.

NEPAL

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	100%	100%	33%	0%
Trachoma	100%	100%	89%	0%
STH	100%	100%	0%	

NIGERIA

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	100%	90%	21%	0%
Trachoma	100%	100%	0%	0%
Oncho	100%	100%	0%	
Schisto	100%	42%	0%	
STH	100%	80%	0%	

SENEGAL

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	100%	26%	0%	0%
Trachoma	100%	95%	5%	0%
Oncho	100%	100%	0%	
Schisto	100%	92%	0%	
STH	100%	100%	0%	

TANZANIA

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	100%	66%	4%	0%
Trachoma	100%	92%	38%	0%
Oncho	100%	100%	0%	
Schisto	100%	96%	0%	
STH	100%	96%	0%	

UGANDA

	Mapping	MDA started	MDA stopped (LF, Trachoma, Oncho)	Validation (LF, Trachoma, Oncho)
LF	100%	100%	30%	0%
Trachoma	100%	100%	35%	0%
Oncho	100%	100%	39%	
Schisto	100%	100%	0%	
STH	100%	100%	0%	